

# THE AUTOMOBILE MAGAZINE

Published by THE AUTOMOBILE PRESS  
ANGUS SINCLAIR, Editor  
136 Liberty Street, New York

MONTHLY  
Price, 20 Cents

The Victorious

# Darracq

"The Fastest Car in the World"

Winner of the "Two-Mile-a-Minute" Trophy Race in 58 4-5 Seconds, at Ormond Beach, Florida

Second Time Winner  
OF THE  
VANDERBILT CUP RACE



Wagner in his 100 H. P. Darracq winning Vanderbilt Cup Race, covering 297 miles in 290 minutes, 10 2-5 seconds

Simplicity, Superb Design, Material and Workmanship, such as enter into the construction of all Darracq cars, made these great achievements possible.

Landaulettes, Limousines and Touring Cars, ready for immediate delivery

**DARRACQ MOTOR CAR CO., 1989 BROADWAY**

Between 67th and 68th Streets

LICENSED IMPORTERS UNDER SELDEN PATENT. SEND FOR ILLUSTRATED CATALOGUE. Darracq Parts in Stock.

— THE PERFECT RECORD OF —  
**Diamond WRAPPED TREAD TIRES**  
 IN THE VANDERBILT RACE

**T**HEY made on Tracy's Locomobile the fastest time of the race and course. They equipped the Thomas Car (Le Blon), which headed the American team, and **all other** American cars in eliminations and final (except for the short time when, owing to the slippery course, leather non-skid tires replaced them).

The road and weather conditions for the big race made the use of the leather non-skid tires seem desirable, and when the race started these caused the only trouble the American cars at any time had with tires. As wheels were locked at high speed on the sharp curves the rivets of the tread strip were pulled loose and changes became necessary. Foreign cars similarly equipped had the same trouble and changed tires repeatedly.

It was **after** he had changed back to the regular Flat Tread type of Diamond Wrapped Tread Tires that Tracy made his wonderful speed record, and then or later he had no tire trouble whatever.

In no way did a leather non-skid tire cause trouble on the American cars except by the pulling loose of the tread in the manner described, and not one Diamond Wrapped Tread Tire, which replaced the leather non-skids, made any but a perfect score. Their whole record is without a flaw.

Their performance, in the two most notable events in American automobile history, the 1906 Vanderbilt Eliminations and Race, constitute the most perfect tire achievement the world has ever seen.

**THE DIAMOND RUBBER COMPANY, AKRON, OHIO**



• Member American Motor Car Manufacturers' Association, N. Y. •

copies of "**ST. LOUIS**" integral construction which you see on every hand. Other makers knew which car was giving the best satisfaction, and with keen perception copied (as far as they dared) the simple combined motor and transmission that has with other features placed the "**ST. LOUIS**" name in the position it occupies to-day. Catalogs free.

**ST. LOUIS MOTOR CAR CO.**  
**PEORIA, ILL.**

**"St. Louis"**  
 TYPE XVI

**W**HEN buying a car it behooves the purchaser to look around well, with intelligent discrimination, and know whether he is buying a car which will be a lasting pleasure or a source of constant expense and annoyance.

Whether or not the

**"Rigs that Run"**

have been built wisely is shown by the numerous







# THE AUTOMOBILE MAGAZINE

Published by THE AUTOMOBILE PRESS  
136 Liberty Street, New York

Price 20 Cents

## The Vanderbilt Cup Race

France Triumphs in the Great Event

**Wagner Wins—Lancia Second—Duray Third**

Saturday, October 6, 1906, was the "greatest ever" in the history of auto racing in America. Never has Long

layed fifteen minutes, and when 6.14 did come, and Le Blon was having the seconds counted out to him, a dead hush sat upon the several thousand spectators about the starting point.

plunge down the line like a projectile.

When Lawwell left the tape in the Frayer-Miller there was another burst of American applause. His car was balky and stopped, but a second later it was running well. Then Wm. K. Vanderbilt's cousin, Elliot F. Shepard, who later had the unfortunate accident,



VANDERBILT RACE SPECTATORS AS SEEN FROM PRESS STAND. SHOWS HOW SPECTATORS CROWDED UPON THE MIDDLE OF THE COURSE

Island had so many thousands of visitors at one time; and as for autos, touring cars, motorettes, racers and such—they were there by tens-o'-thousands. High society was out in full force and the grandstand represented billions. To say that watching the touring cars pass the stand from 2 to 5 A. M. was a "sight," is putting it mildly. No auto show will ever compare with the display of cars that passed over the course in the tiny hours of the morning. The start was de-

### How They Started

Le Blon, with the red 115 H. P. Thomas, of the American team, left the tape at 6.15 A. M., making a good start, accompanied by some cheering. He did not smile. His countenance was sad and pale. George Heath followed one minute later with the light blue French Panhard. Then came the Mercedes of the German team, with Jenatz at the wheel and Lancia's Fiat, the first of the Italian cars to start, made a spectacular

brought the Hotchkiss car to the line. He, like George Heath, was an American amateur, driving for the French team. By his side sat his mechanic, the avoirdupois "Baby" Lehman, who is about four Shepard-power in size. They were followed up by Luytgen's Mercedes and Nazzaro's Italian Fiat.

And then—loud cheers in big type, for Tracy was facing the mark! Thousands held a heavy compression in their breath cylinders until Starter Wagner slapped

Joe on the back. The Locomobile was off and with it thundered a cyclone of cheers that echoed around for thirty miles. It was a pretty sight to see the blue flame shooting from the Loco's four exhaust pipes as it snorted away, pretty, indeed. O, how many of us hoped and longed to see Joseph Tracy make good! Sixty-seconds later, Wagner, with his French Darracq, the car that was destined to win, roared and sputtered away. It was a peculiarly shaped car; looked almost like an animal. Foxhall Keene did not start, owing to a cracked cylinder. Cagno, who used to drive for the Queen of Italy, in the Itala racer; John Haynes, in his plucky little American stripped touring car that was loudly

so much faith was pinned, was losing ten good minutes with a punctured tire. A sickening sadness settled upon Uncle Sam's crowd. But get back! Scat! Lancia was on the job! The Italian passed one minute and six seconds after Jenatzy. The next thing we knew, four cars were coming in a string, and coming with a whirr; Shepard's Hotchkiss, Wagner's Darracq, Lawwell in the air-cooled affair, and Nazzaro in the Fiat. Wagner had gained four minutes on Shepard. The Frayer-Miller car lost a tire, nearly causing a smash-up with Nazzaro.

The flags wig-wagged presently and it was Tracy! It caused greatest surprise to the spectators to see him slam on the

In the second round, Jenatzy, Lancia and Wagner passed the stand in that order. The time score stood Wagner (1), Duray (2), Lancia (3). Those not passing in the lead were Nazzaro, 5th; Clement, 6th; Shepard, 7th; Lawwell, 8th; Christie, 9th; Luytgen, 10th; Cagno, 11th; Tracy, 12th, and Heath, an unlucky 13th.

In the third lap Tracy got another puncture at Jericho and lost seven minutes. Jenatzy led past the line again, followed by Lancia; Wagner, Shepard and Duray. The time score was: Wagner (1), Duray (2) and Lancia (3). The following lap the order was changed to Wagner, Lancia and Jenatzy. The fifth round changed it to Lancia, Wagner and Jenatzy, followed closely by Shepard, Duray and Clement.

In the sixth lap it was a great satisfaction to see Tracy make a showing. He jumped from fourteenth to tenth place, making the round in twenty-six minutes and twenty-one seconds, the fastest lap in the race and the record for the course. This was an average speed of 67.63 miles an hour. Wagner took the lead again in this circuit, passing Lancia, with Jenatzy 3rd, Shepard 4th and Duray 5th. The time score stood Wagner (1), Lancia (2), Duray (3).

The end of the seventh round found Wagner in the lead and Lancia and Duray tied for the second place, their elapsed time for 207.9 miles being 206 min. 43.4-5 sec.

In lap 8, Jenatzy passed Wagner at the ten-mile post. Shepard, owing to his accident, retired. Lancia led past the grandstand followed by Wagner, Jenatzy and Duray. Time score was: Wagner (1), Lancia (2), Jenatzy (3).

Wagner's Darracq was the first in on the ninth lap. Hot upon his trail were Lancia, Jenatzy, Duray and Clement; Lancia being second in the time score, with Duray third. A few minutes later, word was telephoned that Wagner was down with tire troubles at Bull's Head. This news made Lancia's supporters dance, and friends of the Darracq driver sigh.

#### The Finish

It was a spectacular finale. Lancia was the first to cross the tape, shortly after eleven o'clock. Here the excitement reached its zenith. Wagner had six minutes yet to cross the line and win in elapsed time. Hurried calculations. Yes, Wagner would win, provided he did not meet with accident. The crowd swamped in about the grandstand and packed like sardines. Wagner was coming and he meant business. Yellow flags wig-wagged. Down the line like a comet he came, every nerve and muscle of his car strained to the utmost. A few last snorts, a whirr-ziz-bang—and France triumphed!

Jenatzy, who was fifth in time, crossed the line third and was followed by



SECTION OF THE GRAND STAND

cheered; Clement, of France's team, and Dr. Weilschott's Fiat followed in rapid succession.

Next—ah! Christie! 'Rah for Christie! Nerry little Walter with his touched-up front-wheel drive touring car. Cheer up everybody! Watch him shoot through! Now that Duray of the French team is under way in the De Dietrich and Fabry, of Italy, the last of the starters, is off, we will soon begin to get peevish about who is going to come around first.

#### How They Ran

"Car coming!" It was Jenatzy, who had passed Le Blon and Heath. Le Blon's Thomas car had lost three tires at Albertson and poor Tracy, upon whom

brakes and stop his car in front of the Vanderbilt box. Tracy was excited and angry. He spoke to Mr. Vanderbilt and Chairman Thompson, protesting against the crowds. The Locomobile started again and Mr. Vanderbilt had orders telephoned to all parts of the course that the race would be stopped unless the crowds kept back. The order did not do much good. Prunty, the announcer, then informed the people that Dr. Weilschott had broken his steering gear and run over an embankment. This put him out of the race. A few minutes later, Prunty announced: "Haynes has run into a telegraph pole at East Norwich and is still going!"

Duray. Duray, of France, won third place among the winners. Mr. Vanderbilt immediately had word wired all around the course to stop the race, as the crowds had become uncontrollable.

It was a great grief to him to think that two accidents marred the day and probably killed the sport in America for good, for another cup race will never be held on the Long Island course. That a man was struck and killed by a car, and that Tracy's machine injured a boy, was no fault of the drivers or the

Virlet, in which each performer sang a verse, and then they all danced around, singing the same verse in chorus; the Pas de Brabant, where every man knelt to his partner; the Danse au Chapelet, where every man kissed his partner; they danced together, singing minstrels' songs; they danced in the garden, they danced in the meadow, they went out at night to dance, with tapers in their hands; they danced to beautiful music played by an orchestra. Where is the dancing spirit now? Where the mixed



WAGNER PASSING THE BAD TURN AT KRUG'S

A. A. A. Barring the two bad accidents, the race was the greatest and most exciting contest ever held in America.

### When Dancing Was More Popular Than Automobiling

Times and manners change. The customs of London, ancient and modern,

kissing? When did Merry England die? When did it begin? Was it ever so?

After the splendid performance of the Haynes car in the Elimination race, the manufacturers expect a large sale of the 1907 model. J. B. Deibler, their Chicago representative, speaking delighted-



WAGNER IN HIS DARRACQ RACER

greatly differ. Says the London Times regarding mediaeval days: "Dancing was a passion with everybody. From the Queen to the milkmaid, all the women danced; from the King to the craftsman, all the young men danced. They danced in the streets whenever it was possible, which was one of the reasons why May Day was so joyous a festival. The more courtly people had dances dignified and stately, such as the Danse au

ly of its consistent running as compared with the brilliant, though erratic performances of the higher powered cars, said: "We have long maintained that it is not power, but reliability that is of prime importance."

A newspaper which states that snails are making their way as an article of food, adds, with an air of originality, that "their progress is slow."

### ORDER OF FINISH, ELAPSED TIME AND POSITION OF CONTESTANTS BY ROUNDS.

No.	Driver and Country.	Start.	H.M.	Round 1.	Round 2.	Round 3.	Round 4.	Round 5.	Round 6.	Round 7.	Round 8.	Round 9.	Round 10.
10.	Wagner, France.	6.24	6.18	28.26	3.56	84.39	112.21	144.30	178.22	199.33	230.15	258.15	290.10
4.	Lancia, Italy.	6.18	6.18	30.27	2.50	85.55	117.13	143.30	178.30	206.43	235.22	264.28	293.28
18.	Duray, France.	6.31	6.31	30.38	3.58	91.12	120.44	158.26	187.48	215.58	244.16	273.48	303.44
15.	Clement, France.	6.28	6.28	31.02	1.50	89.37	117.37	152.00	180.45	209.07	237.24	275.08	301.59
3.	Lenz, Germany.	6.22	6.22	30.41	6.45	107.08	141.50	170.50	199.47	237.26	265.33	292.58	304.38
8.	Nazzaro, Italy.	6.22	6.22	35.17	10.71	104.05	137.18	175.38	206.37	238.46	270.30	292.58	304.38
12.	Cagno, Italy.	6.15	6.15	35.32	15.89	120.02	150.09	180.42	219.20	250.16	281.05	292.58	304.38
6.	Le Blon, America.	6.16	6.16	39.50	8.79	113.38	147.11	180.04	219.24	253.02	287.10	292.58	304.38
7.	Tracy, America.	6.23	6.23	38.48	12.77	122.32	154.09	180.30	218.53	259.19	287.16	292.58	304.38
2.	Haynes, Germany.	6.21	6.21	34.32	7.66	110.02	142.44	174.48	215.00	252.36	287.16	292.58	304.38
11.	Christie, America.	6.30	6.30	34.07	13.67	110.02	148.36	174.48	215.18	252.36	287.16	292.58	304.38
17.	Haynes, America.	6.27	6.27	45.18	14.79	113.06	158.35	194.34	242.05	281.28	292.58	292.58	304.38
14.	Fabry, Italy.	6.32	6.32	41.28	16.76	113.06	151.11	185.00	222.13	260.57	292.58	292.58	304.38
19.	Shepard, France.	6.20	6.20	32.26	4.64	94.58	125.21	159.14	189.37	215.11	242.05	260.57	292.58
5.	Lawell, America.	6.19	6.19	33.34	5.10	100.14	125.21	159.14	189.37	215.11	242.05	260.57	292.58
16.	Weillschott, Italy.	6.29	6.29	33.34	5.10	100.14	125.21	159.14	189.37	215.11	242.05	260.57	292.58

No. 13 was not allotted, No. 11, Foxhall Keene, withdrew on Friday owing to a cracked cylinder. No. 12, Cagno, and No. 1, Le Blon, completed their ninth rounds, but their time was not announced.



### Mayors Exceed the Speed Limit

At the recent gathering of mayors in Chicago, many of the honored guests were won over to the motor fad. While they were riding about the Windy City in their "chasing chassis," the following incident is reported to have happened. An automobile owner, one of the hosts, attempted to point out a moral to an executive of one of our cities:

"This is a truly delightful outing," remarked one of his guests heartily.

"Yes, we have some fine boulevards," assented the Chicagoan. "How do you like the speed we've been traveling at?"

"Splendid!" was the response. "Exhilarating!"

"Yes, it is that," agreed the owner. "You don't think we've endangered any lives or threatened any accidents, do you?"

"Why, no," admitted the visitor, somewhat puzzled.

"Well, we've been violating the speed

"When you return to your home you'll do a favor to every automobile user and boost the cause of law enforcement if you'll attempt to strike off the ordinance books every farcical speed law. Automobile owners as a rule are not deliberate lawbreakers. But they learn after a few try-outs with a reliable speedometer that no car that is within the speed limit is moving fast enough to reach a given point within any reasonable time.

"Discretion in rounding corners and crossing busy thoroughfares is the essential feature of the safe guidance of an automobile in a busy city—not throttling down to a snail's pace. Some common sense speed laws would be an immense relief to every user of a car."

Perhaps after a few more mayor fests have been held throughout the country, our speed laws will become a little more rational.

situation, but the French poodle is becoming the greatest favorite of all with those who have found it desirable to allot one seat to a faithful dog, which may be left on guard when the car is temporarily deserted by the wayside. At present, however, it looks as if most dogs will die from old age before their automobile education is complete.

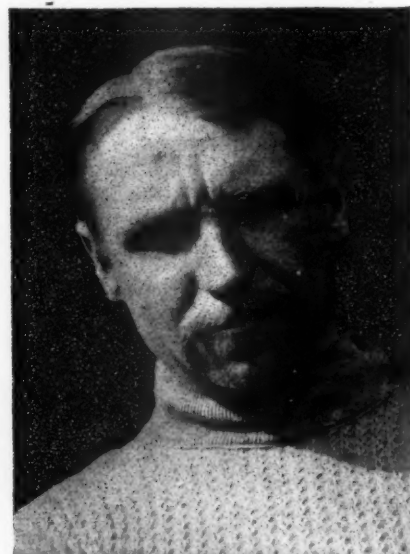
According to the advance sheets sent by the Department of Commerce and Labor to the office of the American Motor Car Manufacturers' Association in New York, there was a tremendous increase in the exportation of American automobiles during the past year, showing that the American makers are beginning to reach out for foreign trade. During the twelve months ending June 30, 1906, the value of American automobiles exported was \$3,497,016, which is a million dollars more than during



LANCIA, DRIVER OF FIAT CAR  
Second in race



WAGNER, DRIVER OF BARRACO CAR  
The Winner



DURAY, DRIVER OF DE DIETRICH CAR  
Third in race

ordinance the greater part of the journey, and I think most of the others in this procession have," was the surprising remark.

"How does that impress you, as the representative of the head of a law-abiding community?"

"Violating the speed ordinance!" gasped the visitor. "Why, we haven't been going fast enough to endanger a banana peddler. Your Chicago speed law must be ridiculous."

"It is about the same as that of any other large city," the Chicagoan answered. "We're not arrested, because the police use discretion. They know that no automobile can keep within the speed limit and move fast enough to please its owner. What does a man want of an automobile if he must move at a dog trot?"

### Automobile Dogs Wanted

One may safely guess that the omnipresent auto has helped many breeds of dogs out of the mode—not by running them down and exterminating them, but because they are deemed unsuited to ride in the cars because of their temperament. In short, the automobile dog is proving a source of worry to its doting owners, for most canine nerves resent the jar and jolt of the motor cars, and it is annoying when one has a dog one wants to take out for a spin to be thwarted by nature. Fox terriers, for instance, are altogether too nervous and high-strung to sit up quietly in the car during high speeding and patiently carry the warm motor coat necessary in cold weather and the goggles needed at all seasons. The bulldog and the collie adapt themselves better to the

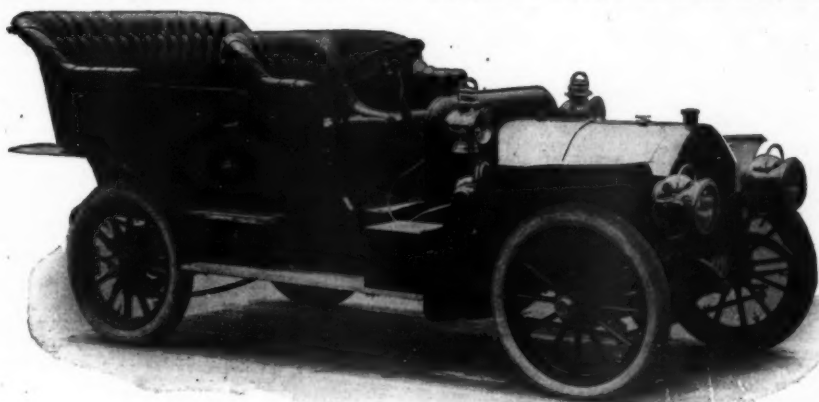
the previous year. Of a little more than a half million dollars' worth of cars that were exported during June, England took the greatest proportion, \$194,709, with British North America second, Mexico third, and France fourth.

A lamp that will keep giving forth light regularly and steadily on a motor cycle can be depended upon to defy any other trying conditions. We are informed that the "20th Century" makers of lamps have developed a gas motor cycle lamp which is entirely reliable. People interested in this line of motor would do well to ask the 20th Century people, of 19 Warren street, New York, for their illustrated catalogue of lamps.



**The Chadwick 1907 Touring Car**

The Chadwick car, manufactured by the Fairmount Engineering Works, Philadelphia, Pa., is a 4 cylinder, 40-45 H. P. machine, strongly built and capable of carrying seven passengers. Its specifications are: Wheel base, 108 inches; gauge, 56 inches to tire centers;



THE CHADWICK 1907 TOURING CAR

tires, 34x4 front and 4½ rear; motor, four 5x6 four-cycle, water-cooled cylinders, two jump-spark ignition systems, one wired to dry cell battery and other to a La Coste magneto; 40-45 H. P., 65 pounds maximum compression; weight of car, 2,850 pounds. Price, \$5,000.

The car has four forward speeds and reverse sliding gear, a transmission brake and two rear hub brakes. Axles are steel drop forgings with wheels on Hess-Bright ball bearings. The hubs are approved and guaranteed for one year by the Hess-Bright Co. and the Chadwick builders. The car has a chain drive with 14 inch sprockets on rear wheels having 35 teeth and a countershaft sprocket with 21 teeth. The countershaft has all plain revolution bearings and all ball thrust bearings and plain bearings are hardened.

The patent change gear of spring-tempered chrome steel has characteristic features. The drive to the countershaft is by an integral double-faced bevel gear engaging a live shaft pinion on the other side. The drive is direct on the high gear and through the side shaft for the other three speeds forward and reverse.

The clutch is a 10-degree cone, 17 inch large diameter, aluminum, leather-faced, with 14 gradual engagement springs. The cone and spring inclosing cone hub are integral with roller pin jaws at rear.

The motor of the four cylinders is in two integral dual unit cylinder castings with applied spun copper water jackets, one for each dual unit. The pistons are ground straight taper to bottom of top ring where the diameter is seven thousandths below low end diameter; the head land is 1-32 under cylinder diameter. The pins are hollow, hardened and

ground. The crank shaft is 40 point carbon machine steel. The wrists are lubricated from oil pits fed by the Hill oiler. Flywheel weighs 96 pounds and is 18 inches in diameter. Valve seats are integral with cylinders. Water circulation is by a sliding radial piston rotary pump. There is no water tank, the

countershaft brake, also one plunger, which works the throttle. One noticeable point throughout the Chadwick is that its parts are strong in themselves and strongly assembled.

**Applejack Power**

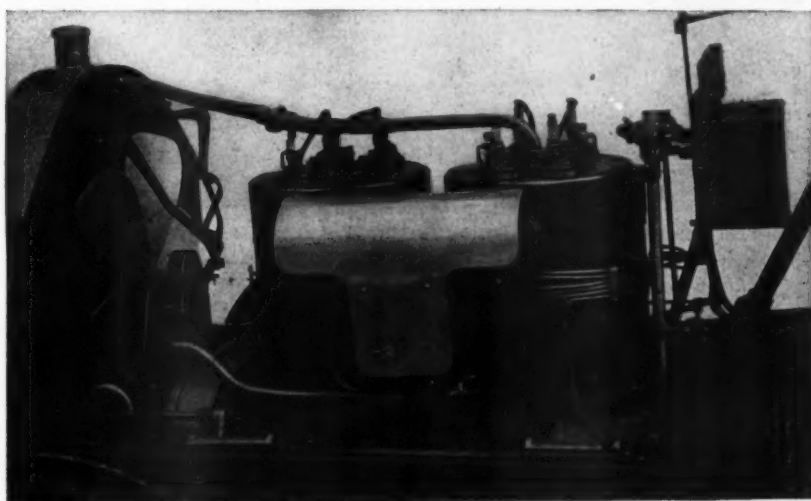
An automobile party of four persons who went from Caldwell, N. J., on a fishing trip to Split Rock, near that place, hired Gene Courtier, an old guide. Gene had never ridden in an auto, and said he "didn't like the dash down the mountainside with a cent." He likes good old applejack, however. After learning that the auto had not been properly stocked with beverages according to his idea, he casually remarked that there were rattlesnakes in the neighborhood where they were going.

"Have yer got any antidote, in case any one should be bitten?" he asked.

The answer was in the negative, and Gene reminded his companions several times that "Rattlesnake's bite is sure death unless you have an antidote."

At last one of the party asked him what was the antidote, and Gene quickly replied, "Applejack."

A stop was made at a distillery, and a five-gallon demijohn of old Jersey lightning was obtained and strapped on behind. Alongside of it was a five-



EXHAUST SIDE OF CHADWICK 1907 MOTOR

construction, having side frame bend reinforcements. The Chadwick does not use a governor. Spark and throttle are handled by the ratchet retained levers on top of the steering wheel, which move with the wheel. There are two outside hand levers, one for applying the rear hub brakes and the inner one for the change gear. There are two pedals on the footboard, one for clutch disengagement and one to apply to the

gallon demijohn of gasoline. After a good day's sport the party decided to wet their whistles.

There were no glasses handy, but in a twinkling the jug was resting gracefully on Gene's shoulder. He was so thirsty that he never stopped until he had swallowed a good part of its contents. Suddenly a look of pain came over his face, and he dropped the demijohn to the ground, smashing it.

"Great Jehoshaphat!" he shouted, "that ain't applejack."

The chauffeur had got hold of the wrong demijohn and poured the applejack, instead of the gasoline, into the machine. Gene's disgust was great, but that of the automobilists was greater, for they were compelled to push and haul the ponderous machine up a steep hill for lack of gasoline.

#### Not Even Standing Room

A traveler on an electric car had a seat next an old negro couple, whose earnest voices attracted his attention. "I tell yo', Sam, dat's one ob yo' mod'n notions. I ain't got no patience wif dese yere mod'n notions," said the old "mammy." "And I say again just like I done say'd befo'," replied Sam, "dat I seen it in de newfpaper." "Yo' mean foh't tell me dat you seen in de paper how folks was a'livin on de moon?"

"Yas'm, dese yere wise folks say peo-



OKLAHOMA OMNIBUS, MADE BY THE RELIANCE MOTOR CAR CO., DETROIT, MICH  
Seats 20 people, 30 h. p., electric lighted, finely equipped in leather, no part of machinery attached to body, chassis being complete in itself.

ple am a-livin' on de moon. An' what's mo', dey say the moon is crowded wif 'em."

The old lady's eyes gleamed suddenly in triumph. "Den ef dat's de case, Sam, whah do all dem people go when de moon dwindles down to a little streak?" —Youth's Companion.

There was considerable rejoicing in Italy when the news was flashed that Lancia had gotten second place in the cup race. Italy, by the way, of late years, has gone in for motoring with a vim. Genoa imported 118 automobiles during 1905, of which 98 came from the United States, 14 from France, 2 from England and 3 from Germany. The number exported from Genoa was 83, of which 54 went to the United States and 11 to Argentina.

**Missouri**  
The License Commission or County Clerk issues numbers. Fee, \$2. Numbers must be in a conspicuous place and two lamps in front containing numbers 3 inches long. No State provision in regard to non-residents. Speed nine miles per hour. Fines, \$100 to \$1,000, or 30 days' to 6 months' imprisonment, or both.

**Montana**  
No State provision in regard to registration, lamps or numbers. Local authorities should be consulted. Speed, 8 miles per hour within city limits, 20 miles elsewhere. Fines not to exceed \$100 or 60 days' imprisonment, or both.

**Nebraska**  
Secretary of State issues seal. Fee, \$1. No time limit. Number 3 inches high on rear of car. Initial and terminal let-

ters of State not less than 2 inches high. One or more lamps forward, white lights, one hour before sunrise and one hour after sunset. One red light reverse. With non-residents, number and initials of own State sufficient. Speed, 10 miles crowded cities, 15 miles towns, elsewhere 20 miles per hour. Fines: first offense, \$25; subsequent offenses, \$25 to \$50, or imprisonment for 30 days.

**New Hampshire**  
Secretary of State furnishes two number plates. Certificate must always be carried. Registration fee, \$3. \$1 for operator's license for one year. Two numbers 4 inches high on front and rear followed by "N. H." Two lamps required containing numbers not less than 1 inch high. Non-residents exempt, subject to speed regulations and to suspen-

## State Automobile Laws

sion of right by Secretary of State. Speed, 8 miles per hour in compactly built sections; elsewhere, 20 miles per hour. Fines: first offense, \$10 and costs; subsequent offense, not exceeding \$100 or 30 days' imprisonment, or both.

**New Jersey**  
Secretary of State issues license, \$1, for each car used. Dealers' fee, \$10. Number, 4 inches high front and rear. No other State number permitted on car. Chains on tires not permitted. Two lights forward containing number 1 inch high; 1 red reverse. Non-residents must procure license. Speed: reasonable, 20 miles per hour. Fines, \$10 to \$100, and not to exceed 30 days' imprisonment.

**New York**  
Secretary of State furnishes seal. Fee, \$2 for owners, chauffeurs, manufacturers. Renewals, \$1 for owners and chauffeurs; 50 cents for manufacturers' duplicates. If car is sold, certificate must be returned. Car must have numbers 3 inches high, also initial letters of State not less than 1 inch high. Two white lights showing forward with number not less than 1 inch high and one red light showing backward. With non-residents, own State number is sufficient. Speed, 10 miles per hour in business and built-up portions; 15 miles per hour where houses average less than 100 feet apart; 20 miles per hour in country; 4 miles per hour at curves, bridge and steep descents. Fines: first offense, \$50 or not more than \$100, or imprisonment not over 30 days, or both. For second offense, not less than \$100 nor more than \$250, and imprisonment not exceeding 30 days. For subsequent violations, not more than \$100 or imprisonment not more than 10 days.

**North Dakota**  
No State provision as to registration or non-residents. At least one lamp during hours of darkness. Speed, 8 miles per hour in city or village; 15 miles per hour while outside city or village; 4 miles per hour at crossings or crosswalks. Fines, \$5 to \$50, or from 5 to 30 days' imprisonment, or both.

**Ohio**  
No State provision regarding registration or non-residents. Cars must have one or more lamps with white lights in front, red light or lights in rear. Speed, 8 miles in business and closely built portions; 15 miles in other portions of municipality; 20 miles per hour elsewhere. Fines, \$5 to \$50.

**Oregon**  
Secretary of State issues certificate. Fee, \$3. No time limit. Number preceded by "Ore.," 3 inches high on back. At least one lamp, white, in front, one red rear. Number must be on white glass. Non-resident, same as resident.

Speed, 8 miles per hour in cities thickly settled; 8 miles in country within 100 yards of vehicle drawn by horses; 4 miles per hour at crossings, when any person is upon same; outside of cities and villages, 24 miles per hour. Fines: first offense, not to exceed \$25; second offense, not exceeding \$50; subsequent offenses, not exceeding \$100.

#### Pennsylvania

State Highway Department issues license. Fee, \$3, good for one year. Number, 5 inches high, to be carried on front and rear of car. Number at back to be illuminated one hour after sunset. One white light showing forward and one red light backward. Non-resident same as resident. Speed, 10 miles per hour in cities, boroughs, counties and townships; 20 miles per hour outside. Fines: first offense, \$10 to \$25 or 10 days' imprisonment. Subsequent offenses, \$25 to \$100 or 30 days' imprisonment and license revoked for six months.

#### Rhode Island

Secretary of State issues certificate which must be carried in car. Fees, \$2 for owners, \$10 for manufacturers and dealers. No time limit. Number, 3 inches high, to be carried on back. Lights such as Secretary of State approves. Own State number sufficient for non-residents. No speed limit, but must stop motor if necessary to prevent accidents. Fines not to exceed \$20 or 3 months' imprisonment for any violation.

#### South Dakota

Secretary of State issues seal. Fee, \$1. No time limit. Number, 3 inches high, on back, also letters "S. D." not less than 2 inches high. One white light showing forward; one red showing backward; number not less than 1 inch high. Own State number sufficient for non-residents. Speed, 10 miles per hour cities and towns, crowded portion. Other portions, 15 miles; elsewhere, 20 miles per hour. Fines: first offense, not exceeding \$25; subsequent offenses, \$25 to \$50, or imprisonment for 30 days.

#### South Carolina

No State provision regarding registry. Cars must have one white light in front and red light in reverse direction at night and in fog. Speed, 6 miles per hour at intersections, et cetera; otherwise, 15 miles per hour. Fines, \$10 to \$100, or imprisonment for 30 days.

#### Tennessee

Secretary of State issues certificate. \$2 fee for certificate and \$1 fee for filing same. Number, 3 inches high in front and rear. Non-residents same as resident. Speed, 20 miles per hour. Municipalities may lower maximum. Fines, \$25 to \$100.

#### Vermont

Secretary of State issues certificate. Fee, \$2, good for one year. Number, 4 inches long, to be plainly displayed.

Non-residents exempt, subject to speed limitations. Speed, 10 miles per hour thickly settled districts; 15 miles per hour outside; 6 miles at intersections and curves. Fines: first offense, not more than \$50. Subsequent offenses, not more than \$100.

#### Virginia

No State provisions. Local authorities should be consulted. Speed, 15 miles per hour. If a vehicle preceding car stops, car must pass at rate of 4 miles per hour. Fines, \$10 to \$100.

#### Washington

Secretary of State issues certificate. \$2 fee for one year. Renewal, \$2. Number, 4 inches high, preceded by "Wn." At least one white light forward and one red light rear. Numbers on white glass. Own State number sufficient for non-residents. Speed, 12 miles per hour congested portion; 24 miles per hour in country; 4 miles at crossings.

sudden; their defection is the result of continued vibration, as a rule, and they start and turn or loosen very slowly, probably taking as much as a fortnight's constant running, in some cases, to get to a point where they finally drop off and cause trouble. An occasional tour of inspection with a wrench, tightening up those parts that are out of sight except when gazing upward from a point of vantage flat on the back, will do much to avert an involuntary stoppage on this account. This is particularly true of the cardan shaft. It is seldom looked at, except when the body happens to be removed for other repairs, but the occasions on which it has been at fault are sufficiently numerous to make it a wise plan to feel its points from time to time and see if they have developed too much play. Also see whether the shaft is still in line or if it has sprung just



C. W. KELSEY TRYING TO CLIMB TREES IN A MAXWELL RUNABOUT AT TARRYTOWN, N. Y.

#### West Virginia

State Auditor furnishes tags. Fee, \$1, good for one year. Number on front and rear of car. No State provision for speed and lamps. Non-resident same as resident.

#### Wisconsin

Secretary of State issues certificate. Fee, \$1 for owner, \$5 for manufacturer. Number, 3 inches high, on rear, followed by "W." At least one lamp. Own State number sufficient for non-residents. Speed, 12 miles per hour in corporate limits of city or village; 25 miles per hour in country. Fines, \$10 to \$50.

#### Parts That Require Attention

Just because certain parts of the car are out of sight they should not be allowed to be out of mind simply for the reason that they continue to do their work uncomplainingly. Nuts and pins do not loosen and fall out all of a

enough so that with a few months' wear it will ruin the bevel pinions.

#### A Hill Climber

Every once in a while we read about motor cars shooting the chutes and climbing flights of stairs and fording mud-bottom streams, et cetera, but the accompanying photo shows C. W. Kelsey forcing a Maxwell runabout up the larboard side of the Palisades. The machine is shown tackling an eight-foot rise, ploughing through rocks, briars and underbrush not particularly good for tires, but Kelsey says he can do it "with his eyes shut."

#### A Gentleman

One day last spring, when the races were in full swing at the Woodbine track, in Toronto, an old lady from beyond Richmond Hill, who was driving



along Yonge street into the city, was worried by the automobiles that passed her heedlessly by, notwithstanding the fact that her horse had backed into the fence. At last a very large automobile came along with a gay party, one of whom told the chauffeur to stop, which he did. The man who gave the order then jumped out and inquired what was the matter. With tears the old woman told him how the other automobiles had acted, and she declared they were "no gentlemen." The man backed out the old horse and buggy and helped her in, and she asked him his name. He made inaudible reply, but she thought she caught the word "Grey," and holding out her hand, she said:

"Whether your name's White, Brown or Grey, you're a real gentleman."

He shook hands heartily, and she did not know until some weeks later that the "real gentleman" was His Excellency, the Governor-General of Canada.



MR. AND MRS. GLIDDEN WHO WILL TOUR THROUGH MEXICO  
IN THEIR STEEL-WHEELED NAPIER

#### The Taxation of Foreign Automobiles in Germany

The automobile tax law, which came in force on the first of July of the present year in Germany, stipulates that permits (tax cards) must be taken out for automobiles of owners living abroad. The taxes to be paid are as follows: For a sojourn in Germany not exceeding five days, 15 M., and for a sojourn lasting from five to thirty days, 40 M., for each automobile. These permits are issued on the payment of the dues at the German frontier custom houses. In regard to the duration of such permits, erroneous views prevail abroad and we should especially like to point out that paragraph 110 of the law states that the

five or thirty days for which the permits are valid need not necessarily be consecutive days, the permits, therefore, should be produced on every occasion that the frontier is crossed and laid before the customs officials to allow of the entry or departure from the country being exactly noted. Such notices should contain the marks of recognition of the automobile (letter and number) and the number of days passed in the country. Every day, if only partially spent in the country, is reckoned as a full day. It is not necessary that the frontier station at which the entry is made should always be the same one. Foreigners who are treated at the frontier customs stations in contradiction to the above regulations should always refer to paragraph 110 of the regulations.

#### Mr. Glidden's Mexico Trip

Scarcely back from the Bretton Woods tour, he who is famous for roll-

ing around this little earth is at it again. Mr. Charles J. Glidden is about to leave for Chicago, where his Napier car, fitted with steel wheels, will be put upon the rails of the Rock Island Railroad, en route for Mexico. After reaching El Paso Tex., he will tour over the tracks of the Mexican Central road to Mexico City. Mr. Glidden will drive his car the entire distance, acting under orders of a railway conductor, who will act under instructions from division train dispatchers. The famous motorist expects to add considerably to his present world mileage of 33,600 miles.

Space for the Seventh National Automobile Show at Madison Square Gar-

den has been allotted this year on an entirely different plan from that of 1905. The twenty-nine manufacturers of standard cars agreed to the new idea of granting first choice of space to the manufacturer whose output and sales had been largest during the year ending June 30; second choice to the second largest, and so on. All of these manufacturers are licensed under the Selden patent and render regular statements of their output. This enabled the show committee to follow out their plan with exactness and satisfaction to all.

#### The Goggles

**The Newest Accessory for the Comfort of Automobile Drivers is The Goggles**

Some of the new features and decided advantages of the Goggles:

In the first place the lenses are curved and the cups themselves are quite flat, giving a full and unobstructed view both laterally as well as downward. The shape of the cups themselves is of an approved pattern, the inflated rubber cushions preventing any harmful pressure upon the blood vessels.

Secondly, the cups are ventilated, there being an air space around the entire



THE GOGGLETTE

circumference of the lenses, the air having free access from without and being conducted to the inner surface of the lenses, thus keeping them cool, clear and unaffected by the heat and moisture of the face; a fine mesh inserted between the inner and outer wall of the goggles also prevents small insects or particles of dust from entering the eyes.

Third, the Goggles, being made of aluminum and rubber, is thoroughly sanitary, and can be washed without injury, as there are no fabric nor fur trimmings. Neither does the aluminum rust nor tarnish easily.

For convenience in carrying, the Goggles is provided with a double jointed nosepiece, so that it may be folded readily and carried in the pocket, while the nosepiece itself can be bent to fit varying pupillary distances. As all parts are interchangeable, repairs can be readily effected and the Goggles made as good as new at small cost.

Sold at \$4.00, including case, by the trade, or direct by the maker, E. B. Meyrowitz, 104 East Twenty-third street, New York city.



# General Correspondence

Editor AUTOMOBILE MAGAZINE:

The advent of the automobile upon the public highways has brought with it, in addition to an abundance of legislation, a number of actions at law, brought by the owners or drivers of horses or other animals, to gain pecuniary solace for the injury sustained as a result of the animal taking fright at the unusual appearance and noise of the automobile. And in many such cases the argument has been advanced by the party bringing the action that the defendant automobile owner was rendered guilty of negligence by the very act of bringing so unsightly an object as an automobile upon the highway because of its known tendency to strike terror into the heart of the timid beast. But this argument has generally been met by the courts by an application of the well established principles of the law of negligence. Though a negligence action involving an automobile presents, to an extent, a novel question to the court, still the question is one not entirely unheard of and it has not been necessary to frame new rules of law governing the equities of such a case. There are old cases, wherein the horse in the case became terrified at the sight of a railroad train running along near the highway or where the cause of complaint was a contrivance moving upon the public road by its own power, and these cases are in point.

Long ago as 1876 legal damages were sought from the owner of an engine, mounted on wheels and operated by steam, which was being run along a highway at nine o'clock in the evening, the plaintiff's horse becoming unmanageable upon seeing the unusual spectacle. The case was brought up before the Supreme Court of Michigan, and in a statement, which might well be termed prophetic, the Court said:

"Persons making use of horses as the means of travel or traffic by the highways have no rights therein superior to those who make use of the ways in other modes. It is true that locomotion upon the public roads has hitherto chiefly been by means of horses and similar animals, but persons using them have no prescriptive rights, and are entitled only to the same reasonable use of the ways which they must accord to all others. Improved methods of locomotion are perfectly admissible, if any shall be discovered, and they cannot be excluded from the existing public roads, provided their use is consistent with the present methods."

In such a case as the one above, or

in any similar case, negligence must be shown in order to warrant a recovery, and the mere act of owning a self-propelling machine and using it upon a public highway does not, in itself, constitute negligence. The owner is accountable to the person injured, not because damage has resulted from his doing the act, but because the act has been negligently done. The act is not wrongful per se and the wrong must necessarily be sought for in the time or manner or circumstances under which it was performed. The injury does not prove the wrong, but only makes out the case for redress after the wrong is established.

A highway is a public way for the use of the public in general without

cient and one that is constantly being invoked. Thus, at one time the great highways by water were regarded as of such importance as to entitle those making use of them to superior rights over those using intersecting highways by land. Accordingly, bridges over navigable waters, when permitted at all, were required to be so constructed as to secure to vessels an uninterrupted passage, and the travel and traffic by land was compelled to await the convenience of travel and traffic by water. But the rule was not inflexible; it was one that must yield to circumstances and was subject to change as time progressed and method of travel improved. Later when railroads came into more general use the



WRECK OF WALTER CHRISTIE'S STEAM CAR AT MINEOLA PRACTICING FOR ELIMINATION TRIALS

distinction. The restrictions upon its use are only such as are calculated to secure to the general public the largest practicable benefit from the enjoyment of the easement, and inconveniences must be submitted to when they are such as are incident to a reasonable use under impartial regulations. A highway established for the general benefit of passage and traffic must admit of new methods of use whenever it is found that the general benefit requires them.

The automobile represents an improved method of travel upon the highways and the rule applies that to its reasonable use the more antiquated methods of travel must give way. The rule is an-

paramount rights asserted by vessel owners were promptly denied and it was laid down that vessels must submit to any inconvenience incident to allowing the public the benefit of the improved locomotion by land.

And in the same manner and to the same extent must the domestic animal make way for the automobile. The highway may not be so safe for the driver of the horse as it was before the automobile became popular, but the former must surrender so much of his rights in the highway as may be necessary to render automobiling practicable. And when the rights of the automobilist and the person using some other mode of

travel clash the former may not be held liable for the ensuing damage if his use of the highway has been a reasonable one and he is guilty of no actual negligence nor violation of statutory obligation. In other words, the law does not denounce the use of automobiles, as such, upon the public ways, and where one, using his own means of locomotion, is injured by the act or omission of another, the question is not one of superior privilege, but it is a question whether, under all the circumstances, there is negligence imputable to someone, and if so, who shall be held to account for it.

JOHN E. BRADY.

New York.

### Unjust Blame

Editor AUTOMOBILE MAGAZINE:

A great deal has been said about so many persons being injured by people recklessly driving automobiles.

Nearly every paper one picks up has under glaring headlines an account of some accident caused by reckless drivers of automobiles. If an accident of this kind does occur, it loses nothing in the telling and the reporters make it sound a great deal more "hair-raising" than it really is. But were the same persons injured in a runaway caused by an idiotic horse, one would see a half a dozen lines tucked down in the right-hand corner on the last page, scarcely noticeable.

Where one accident caused by reckless driving does occur, the driver or owner is not the only one that gets kicked, but the whole automobile world has to take a kick also.

It has been noticed by the writer that a large number of these accidents are really caused through ignorance of the drivers of horse-drawn vehicles. Instead of making their horse face the auto, they will turn him to one side, thinking if they can get the horse turned so he can't see the machine he will be less afraid. That is not so, for if a person will make a horse face the machine and keep him moving he is likely to get by safely. Merely use the whip enough to keep him on the move. If you should whip him, the next time he met an auto he would expect another whipping and would be afraid accordingly.

The Virginia automobile law covers this frightening business to perfection if it is enforced. It reads: "Any driver of an automobile shall, on approaching a horse-drawn vehicle, slow down, and in case he is signaled shall come to a complete stop, and if requested shall get out and lead the frightened animal past the machine. Should an automobile driver see that a horse is frightened he shall slow down and get out if necessary whether signaled or not."

The automobile is here to stay, so we might just as well quit howling. It does seem too bad though that the "sins" of a few must be visited on the many careful drivers.

H. A. METCALF.

Bellingham, Wash.

### Speed Tests

Editor AUTOMOBILE MAGAZINE:

It will be generally agreed that speed tests of automobiles while very successful from a spectacular point of view, and as an exhibition of the skill of the drivers, are of little or no educational value. Speed records belong properly to the race tracks or to sea beaches or remote places where the trials would be free from interference. Public roads belong to everybody, and the toleration of a few village officials toward these trials does not at any time affect the vested rights of the public to the free use of the roads.



JENATZY, DRIVER OF MERCEDES CAR

That public highways afford a proper stage for any kind of competition will always be challenged, but there are certain kinds of competition that could be held without in any way interfering with the vested rights of the people. The Glidden tour came more nearly filling that condition than any of the recent contests, but the extent of the journey and the large expense incident to such a tour renders it more of a summer excursion among a fortunate few rather than a real test of endurance and utility.

The English Automobile Club recently held a competition, the first stipulation being that each vehicle should be of a type sold to the public for town use. There were fourteen points on which marks were awarded to the competitors. Among these were absence of smoke and smell and noise, freedom from leakage

of lubricating oil, ease of starting and absence of vibration. Silence in changing speed and ease in cleaning and repairing with flexibility in maneuvering. It will thus be seen that while the English manufacturers have not shown as much interest in high speed competitions as might have been expected, they are working along lines of public utility and in the end this is really of more consequence to sellers and their customers than the lowering of the record to speeds that are to all useful intents and purposes prohibitive.

A. JARDINE.

Richmond Hill, L. I.

### The Shock Absorber

Editor THE AUTOMOBILE MAGAZINE:

The shock absorber has passed the stage of experimentalism. It is no longer an experiment nor a theory; its use has become imperative. To every piece of machinery, no matter how complicated, no matter how simple, ultimate death or destruction will come from that one cause if no other—vibration. If this be true of other machinery, how much more is it true of the motor car?

That pounding, jumping, jolting, that "loop-the-gap" that takes place over every irregularity in the road, just as surely means dissolution and repair shop to the machine as a violation of nature's laws means doctor or death to the individual.

Springs in the ordinary sense in which we know them are ineffectual; no spring that is manufactured to-day will more than approximate that which the proper application of a properly constructed shock absorber performs.

It is necessary to search very far for the reason; varying weights of loads produce different degrees of strain on the springs. In some cases a capacity load so depresses the springs as to absolutely nullify the intent of the manufacturer and render permanently useless the spring equipment. This in spite of nicety of calculation to fit the spring to the capacity of the car for the reason that while a pound of feathers weighs as much as an equal weight of lead, the size of your car admits the storage of more of the latter.

The repair problem is an unpleasant subject to bring up, but it is a condition and not a theory; the way to do is to combat it as every point, do what you honestly can to eliminate it and you will at least minimize expense, in that regard as when, for an instance, a business house comes to the point where it appears necessary to break away from the horse-drawn delivery and adopt the motor; to start fair, select a good shock absorber and have them attached.

Regarding the use of the shock absorber on motor carriages for outing purposes, no argument is necessary, once an owner uses this device nothing would



induce him to remove them. If the appliance has been constructed along the proper lines there is the entire absence of jolting and jarring which without any reference to the lengthening of the life of the machine or freedom from repair bills, is in itself a full and complete recompense. All vibration is not due to the jolting that a car receives in traveling over rough roads, but that that is so caused is positively neutralized with the full knowledge that where there is friction there will be abrasion with consequent wear of the bearing parts, is to my mind correct in principle.

A shock absorber should be self-lubricating; all the bearing parts of this device should be inclosed in such a manner as to absolutely exclude grit and dirt, and at the same time retain the grease so as to leave the bearing parts practically in a grease bath, thus insuring a lubrication that can be relied on at all times, and requiring little attention.

The absorber should respond to the shock from any direction, thus adding to the resiliency of the tires, prolonging their life and adding to the pleasures of motoring.

J. B. ROWLAND.

#### France Ahead

Editor AUTOMOBILE MAGAZINE:

The victory of the French in the Vanderbilt cup contest will undoubtedly have an effect on the automobile industry in France. While it cannot be claimed that the victory is anything particularly remarkable, seeing that a number and variety of accidents to every competitor made the result to a large extent a mere matter of chance, still it must be admitted that the French cars have shown a tendency to keep in the front in spite of the rapid development of the motor car in America. In this regard the French manufacturers had several advantages. They were first in the field and the industry there may be almost said to have reached maturity, while in other countries the manufacture of automobiles is only passing out of its infancy. Those who have been in France know that the people there are far in advance of any other country in the use of the automobile. The number and variety of motor-driven vehicles in the streets is remarkable, and seems to embrace every species of city departmental work. Mail carriers, street sprinklers, large dray removing garbage and grocery and milk wagons and all moving at a speed much higher than anything hitherto done by horses.

Realizing at once the superiority of the automobile over other forms of locomotion the French were quick to adapt it to their needs. The fine roads in France gave them an excellent opportunity to utilize the machine, and the simplicity

and universality of their road laws made the use of the machine at once pleasant and agreeable and almost free from the absurd and multiplex regulations that have been and are still such an unpleasant feature in American automobiling. No doubt in the near future American ingenuity and American common sense will surmount the difficulties that have hitherto acted against the use of the motor car in America, and the supremacy of American mechanism will show itself in the perfected form to which the automobile is rapidly approaching in America.

WM. CAWOOD.

Yonkers, N. Y.

#### Washing Automobiles

Editor AUTOMOBILE MAGAZINE:

Your valuable hints in regard to the care and maintenance of automobiles are terse and timely and your recent instruc-



HERBERT LE BLON  
Driver of 115 H. P. Thomas Car

tions in regard to the proper cleaning of an automobile was followed by me very carefully with very gratifying results. Permit me to add one word to your excellent suggestions. In cleaning and washing an automobile it is best to have the machine in the garage or other shelter. Washing with water is very injurious if the operation is performed in the sun; in fact, the sunshine is the worst enemy of the finely finished car. It should never be left in the sun if it can be avoided. In this regard the automobile is very similar to its predecessor, the horse. It should also be cleaned and washed immediately after finishing a journey, as the mud and grease stiffen very rapidly and become difficult of removal.

J. B. TOD.

Nyack, N. Y.

#### Tour of a Well-Known New York Business Man

Mr. Angus Sinclair,  
Editor AUTOMOBILE MAGAZINE,  
136 Liberty St., City.

My Dear and Esteemed Friend:

I know you are always interested in your work, and your work in this line is quite a departure from your locomotive work in a sense, and yet it is right in line with it, for you have taken up the road locomotive, and your interesting magazine is one that I take the time to read, because I know the editor, and I know that he knows his job.

Well, you've said that I have got a Fiat, and I am a great traveler, and that the use of the automobile has doubled the pleasure of going about the world. I think it is more than that, it has doubled the opportunity for intelligent intercourse between people of this country, particularly in the rural districts and outlying country, in which they are brought more directly into contact with the traveling public than ever before. They have taken us out of the beaten ways of the iron horse, and we have gone off where we can see the beauties of nature, and how the people live, other than those we meet in the elevated roads and on steam cars, meeting houses and big hotels and resorts.

I have just completed a little trip, starting from my country place at Old Orchard, Belle Haven, Greenwich, Conn., and going to Hartford in the afternoon, where we spent the night. We then went up to Windsor Locks and crossed the Connecticut river and followed along up that beautiful valley as far as Springfield, through Chicopee, Holyoke, Northampton, and on to Greenfield and Brattleboro, Vt., where we spent the night very comfortably. The next morning we started out about ten o'clock and drove to Bellows Falls, where we crossed the Connecticut into New Hampshire, and went up along the river to the beautiful town of Charlestown, one of the prettiest little country towns I have seen in many a day. We then crossed the river again into Vermont and went onto Windsor, which was the place we were headed for, to visit our friend, Mr. Maxwell Evarts, and incidentally to attend the fair there, where they had a show of cattle and horses which was one of the most interesting and instructive I have seen in years, with a fine display of short horns, and a good horse show. During our stay there, Mrs. Moore and some friends motored over to Sunapee, N. H., and called on the widow of our late lamented Secretary of State, John Hay. But you need not make mention of that only incidentally. That was a run of about 80 miles.

On Saturday morning we left Windsor and went down via Brownsville, Felch-

ville, Downers, Gassetts, Chester, Simonsville, Londonderry, Manchester, where we stopped in that beautiful valley and took our lunch at the Equinox House. We then went on through Sunderland, Arlington, Shaftsbury, Bennington, Hoosic Falls, Potter Hill, Pitts-town, Baymertown, Maynersville, Brunswick Center to Troy, where we spent the night. Sunday morning we left Troy about eleven o'clock and came down the Hudson, through the towns of Hudson and Poughkeepsie and Tarrytown, crossed from there to White Plains and back to Greenwich safe and well, making a trip of about 750 miles without a mishap, and but one delay, caused by the bursting of an inner tube.

I would not advise any automobilists to go through some of the country we went through, about Downers and Gassetts, and that section of Vermont, if they are looking for good roads. The roads were in very bad condition, caused by these, what seemed to be, useless and unnecessary "Thank you ma'ams" in the road, built up so high as to make it not only very unpleasant, but really dangerous to an automobile to cross.

While on the trip we had a little experience that I must give you, illustrating the value of a drug store to the automobilist in trouble. We stopped Sunday evening to make a little repair to a tire, and stopped in front of a drug store to avail ourselves of the splendid light while the chauffeur was doing the work. Just before we reached there, we found that our acetylene light had gone out, and in looking for the trouble we discovered that the tank in the generator had a leak, caused by a crack across the copper tank, and it was Sunday night, with no tinsmith or garage or machine shop, or any place where we could get a bit of soldering done. We had the unpleasant outlook of having to travel over a strange road at night without the company of our acetylene light, which I did not contemplate at all pleasantly. So I began thinking of some manner by which we could repair the leak. I thought of some of the standard chewing gums, such as Adams' Tutti Frutti or Beeman's, so I went into the drug store and bought five sticks, and immediately instructed my son to chew up one, and I commenced chewing two very vigorously, to extract the sugar, and get it into a pliable condition, knowing of the great adhesive qualities of chewing gum as now made, so I had great faith in it. My faith was rewarded by my taking the result of the chew and pressing it onto the inside of the tank in the corner where the leak occurred, along the crack or break, and after doing so, and making as neat a job as possible, I went into the store and filled the tank with water, and found it was absolutely tight. We then were able to put the generator

in and come home with a good acetylene light. I would now recommend chewing gum as one of the important equipments for an automobilist for soldering leaking tanks or for repairing temporarily. It will be a new article of automobile equipment.

I hope that our Automobile Club of America will take up the question of guide boards along our country roads, where they are traveled much by automobilists, and either at their own expense, or by urging the county authorities and highway commissioners to see that the guide boards are placed at every prominent road crossing, or fork of the road, and also to interest the local pa-



M. J. BUDLONG  
ELECTRIC VEHICLE CO.

pers in education of the people along the road in courtesy to travelers and not to try to direct them wrongly. I found one vicious-minded, or rattle-pated boor, who, when I asked him at a little country grocery store which road went to Troy, a boy promptly sung out, "Take the one to the left." This beast, or "thing," as I called him, called out, "No, you want to come back and turn the other way." I believed I was wrong in doing it, and I stopped our automobile after going a little distance, backed down to the store, where he was seated in a wagon, and asked who it was that sung out to us in reply to our inquiry for the direct road, to come back and

turn the other way. He said in reply that some kid did it, and I said, "No, I readily recognize the kid's voice, it was the voice of a thing who did that, and such a thing was a disgrace to the human family." That anyone would be so low or vicious as to try to misdirect a stranger and a traveler at night to the wrong road, in response to a courteous inquiry as to which was the right road, was unfit to be recognized among men, and should receive a good punching, which I felt fully able and willing to administer if he would step down and away from the ladies, where I could get a good whack at him. Of course he was too big a coward to accept my invitation, but I had the satisfaction of telling him very plainly what I thought of him, and leaving him as dumb as an oyster in reply to my charges against him. He had been willing to misdirect a traveler, and then so cowardly as when charged with it, to lay it off on a boy, and then to add falsehood to his dirty, low game of misdirecting, to escape what he should have had, which was a good punching.

But to say that we enjoyed every hour of our trip was to put it mildly. We had beautiful weather, and the scenery was charming. We found very nicely equipped hotels all along the route, and found a great many automobilists in a section of the country where we would least expect to find them. At times the highways of the Berkshire Hills seemed to bristle with automobilists, and if the farmers and residents along the roads of the country only realized the great advantage it would be to them to have their roads more attractive, and it would make their property more attractive and bring it more to the notice of the passers-by, and make them feel as though they were more in touch with the world and the source of income to the hotels and garages that are courteous and furnish good accommodations is great.

With very kind regards, I remain,

Very sincerely yours,

C. A. MOORE.

### The Lawmakers' Responsibility for Automobile Accidents

Editor AUTOMOBILE MAGAZINE:

Every automobile driver knows that existing automobile laws are unjust and illogical; and that in many places the enforcement of automobile laws is discriminating and unreasonable.

Automobile drivers, as a class, are necessarily and naturally above the average in intelligence and respectability, and in their conception of good citizenship.

As a combination of these two facts, we have the peculiar condition that a large number of people of irreproachable character are habitually subjected to annoyance and humiliation at the hands of the same servants of the people who



pass "suspended sentences" on those guilty of actual crime.

While the automobilist must expect to pay some penalty for being the exponent of a new thing, I think that much of the injustice under which he suffers results from his own attitude and that of the class journals which are supposed to represent him, in assuming a defensive and apologetic position.

Automobile clubs and automobile journals issue bulletins and write editorials on the necessity of obeying the law. Hardly an issue of the automobile papers fails to have an editorial denouncing the speed maniac, the careless, the inhuman driver.

It must be admitted at once that there are some automobilists who have no regard for the rights of others. Personally I don't know a single one who belongs in that class; and I, therefore, infer that the criminally reckless automobilist must form a very small percentage of the whole body.

It is plainly apparent that the selfish, thick-skinned man who goes through a crowded street at forty miles an hour, and leaves his victim lying on the road, is not affected or influenced by the tissue paper bullets of pleading editorials. Those editorials have no effect whatever on the real offenders, and they injure the whole body of automobilists by giving a sort of official endorsement to the fallacious theory that a good man becomes transformed into a bad man by the mere contact of the steering wheel.

The apologetic editorial at best is useless, at worst is harmful, and should be dropped to make room for plain, manly demands for justice.

The automobilist has been on the defensive so long that he has become cowed. He hears silly statements as to the harmfulness of his machine repeated so often that he finally accepts them as true himself, and raises no voice in protest.

I desire to call attention to one foundationless theory on which much automobile legislation has been built, and which in spite of its utter fallacy has been swallowed by automobilists and endorsed by their published organs.

Between Niagara Falls and Buffalo there is a four-mile stretch of road which is guarded by signs at each end reading, "Slow down to 8 miles." There is another stretch of five miles in which the speed limit is ten miles per hour. Exactly in the center of the roadway there is a double-line track, over which the trolley cars pass at intervals of three minutes at the rate of 40 miles per hour.

The State automobile law expressly excepts "vehicles traveling on fixed tracks."

THE AUTOMOBILE MAGAZINE, for July, 1906, says on page 12: "Electric cars,

running on fixed roadbeds, kill and maim more people than automobiles which follow no fixed roadway, but travel in the most confusing, and, therefore, dangerous manner."

The lawmaker, in his ignorance, assumes that a car on a fixed line of track is less dangerous than an automobile moving at will. Perhaps the mental attitude of the lawmaker is not surprising. But why do automobilists accept that theory? And why do automobile journals endorse and disseminate it?

The author of the article from which the above quotation was made, arrives at the rather puzzling conclusion that automobiles are safer than trolley cars, in spite of the fact that they are not confined to fixed tracks. I contend that the logical, reasonable and correct conclusion to be drawn from this statement is that automobiles are less dangerous

looks carefully in both directions, is not struck by a trolley car; nor is he struck by a wagon or automobile.

It is in the power of every man to positively avoid being struck by a trolley car, by simply looking up and down those fixed tracks. And yet many men are struck by trolley cars. Why? Because having the means to avoid danger, he neglects to use them.

The man who is hit by a trolley car is the one who dashes across the street without looking; who converses with a friend on the curb and then walks backward in front of a car as he waves goodbye, or who does some other equally natural and neglectful thing.

The same mental attitude which enables a man to keep off a car track, also enables him to keep from getting in front of an automobile; and the man who is struck by an automobile is the one who



WESTINGHOUSE AUTOMOBILE MECHANISM AS SEEN FROM ABOVE

than trolley cars, because they do not travel on fixed track.

The general acceptance of the idea that the trackless vehicle is more dangerous than the one which follows a track, is not based on any process of reasoning, but on the rather thoughtless assumption of the single premise that the public by simply avoiding the car track, can avoid all danger from the cars.

There is no flaw in that assumption; but suppose we take it in connection with some other equally indisputable facts.

Automobiles, running at will, run over people.

Horse-drawn vehicles, running at will, run over people.

Trolley cars, running on fixed tracks, run over people.

The man who, before crossing a street,

thoughtlessly gets in front of it, in just the same way that the same man would thoughtlessly get in front of a trolley car.

Now, imagine a trolley car passing through a street at an ordinary rate of speed. A man suddenly steps backward onto the track, ten feet in front of the car. What can the poor motorman do to avoid an accident? He can stop his car as quickly as he possibly can, and that is the limit of his resources. If he can stop the car in 9 feet, no damage is done. If it takes 11 feet to overcome the momentum of the car, there is another victim, and an innocent motorman is mobbed.

Let exactly the same thing happen, but let the moving vehicle be an automobile instead of a trolley car. What can the motorist do? He can bring his

automobile to a stop as quickly as could the motorman stop his car, and in addition to that, he can change the course of the automobile so as to, in the majority of cases, avoid striking the endangered man.

Look back into memory or the files of daily papers, and see how frequently there will be found an item reading about like this: "The big touring car, owned by X. Y. Blank, had its front end smashed in yesterday by coming in contact with a tree. Mr. Blank was driving his car when a woman walking at the side of the road suddenly stepped in front of the car. To avoid striking the woman, Mr. Blank steered his car into the ditch, with the above result."

A fixed track has no potentiality of making careless people careful; but by pre-

will keep permanent control of Cuba. The people of that fair isle are no more competent for self government than the negroes of Santo Domingo or those of our Southern States. Politically they resemble the people of England and Scotland three hundred years ago. When their party is defeated in an election their tendency is to take up arms to argue out the differences with sword and rifle. If the United States had not taken a firm stand with the contending Cubans there would have been hanging and shooting of the vanquished just as the leaders of the losing side were treated in the European civil wars in the days when people were learning to rule themselves.

The exercise of the freeman's privilege of helping to rule himself and his

### Shock Absorber Performed Wonders

Ed. E. Robertson, general manager of the Hartford Suspension Company, has given out for publication the following letter received from Wagner, the winner of the classic event:

"It would hardly be fair for me to return to France without writing something to you regarding the excellent service rendered by the Trauffault-Hartford Suspensions on my Darracq racer, with which I won the Vanderbilt Cup race last Saturday.

"Although I have always used these Trauffault-Hartford shock absorbers in other contests both here and abroad, I never have really appreciated their value so much as in whipping around the short turns of the Vanderbilt course and in riding over the rough spots and railroad crossings sometimes at 100 miles an hour. Without the suspensions neither I nor my mechanic could have remained in the seat, so you can see how much they contributed toward our success in the hard journey.

"Every racing car and almost every touring car in France is now equipped with these Trauffault-Hartford Shock Absorbers, and I am glad to learn that the same condition is growing in evidence in this country."

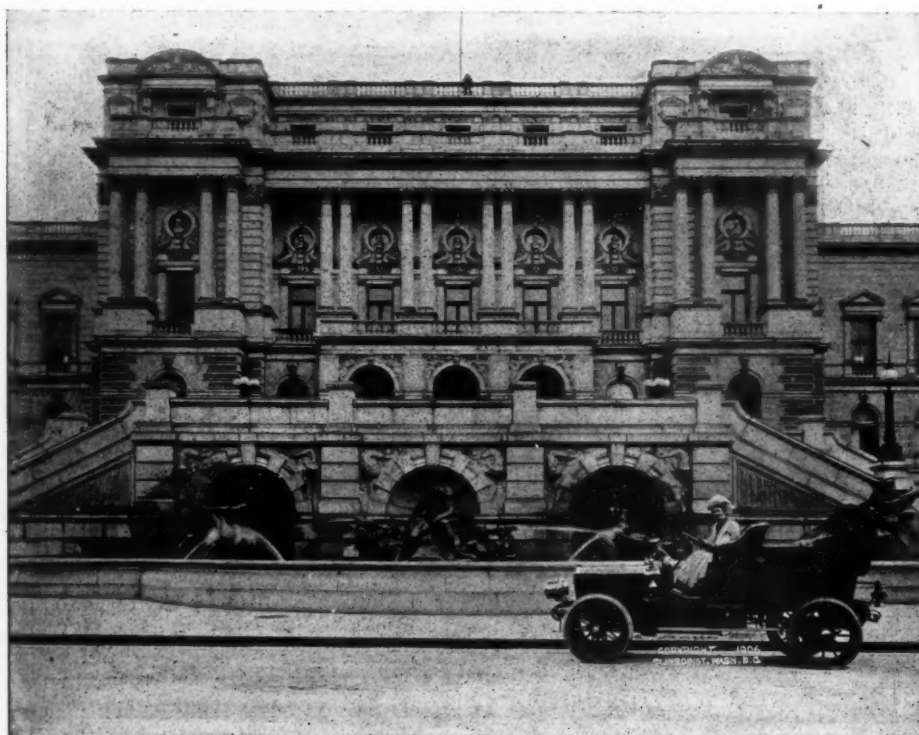
### Automobiling Accused of Increasing Insanity

It is wonderful the ingenuity that the enemies of automobiling display in working up disparaging charges against the popular use of horseless carriages. The latest lie spread in the British Isles is that automobiling is causing an increase of insanity. In an overcrowded country there are always numerous causes for insanity and they are not likely

to be increased by the wholesome outdoor life encouraged by automobiling.

In England, where everything that is excessive in a great civilization is to be found, mental alienation is very frequent. Many special causes contribute to this, such as ill-assorted marriages, which engender hereditary insanity, hazardous and desperate speculations, the frequency of commercial crises, the increasing fluctuations of political life, the laziness peculiar to the rich, the abuse of fermented liquors, and lastly, the immense number of religious sects.

The golden wedding is celebrated by only one out of every 1,000 married couples.



MRS. GRATS HELM, NIECE OF SPEAKER CANNON, "UNCLE JOE." CONGRESSIONAL LIBRARY IN THE BACKGROUND

venting the driver of the vehicle on the track from doing anything to overcome the result of the careless person's carelessness, it seals the careless one's fate.

Why not publish a little truth now and then, even if it is favorable to the automobile?

F. W. HASKELL.

Niagara Falls, N. Y., October 1, 1906.

### Cuba Will be Safe for Next Winter's Automobiling

Automobilists who are interested in racing and in touring during the winter in a genial climate will rejoice that the rebellion in Cuba is ended for the present. If the government of the United States are wise in their generation, they

countrymen cannot be acquired in one generation. France went through oceans of bloodshed before its people rose from serfs to voters, and the French peasantry were much better material for elevating purposes than the heterogeneous mass that forms the population of Cuba. The undigested ignorance of Europe comes to the United States in masses that would be dangerous if its influence was not neutralized and held in check by the multitude that had already learned to perform wisely the duty of free citizens. Cubans are like the ignorant hordes that find homes in America without having impressed upon them the conservative influences of old comers.



## European Notes and Comment

By A. F. Sinclair

### The Coming Shows

When, last year, the British Society of Motor Manufacturers and Traders held their show in November, a month before the Paris Salon, the French trade affected to treat the matter as a source of infinite amusement. But the fact remains that many of their new models were seen at the London show, and a decided drop took place in the sales to British buyers at the Paris display in consequence. Since then there has been less disposal to scoff at British pretensions, and the rumor went around that an effort would be made to hold the French event this year in October. That

their show in Olympia, London, and as heavy vehicles and motor boats will be excluded, the show of cars will without question be the finest ever held in this country. Industrial vehicles and boats will have a show to themselves in the spring.

### Kerosene Engines

The growing cost of gasoline has sent various sections of the motoring community in search of other fuel, but it was not a matter of cost, but of the danger of gasoline, which gave rise to a series of experiments in the laboratory of the Automobile Club de France. The experiments with five different engines

were undertaken on behalf of the French Ministry of Marine for the purpose of securing a safer fuel for submarines. It cannot be said, however, that they were altogether successful, and the investigators have practically admitted their failure by ordering a fresh series, starting on the 15th of Octo-

nouncing the intention of the British Government to impose in the new motor car act a tax of one pound sterling (five dollars) per horse power per annum, with a minimum of £5. That would mean that cars of moderate power, say, 20 H. P., would have to pay £20 a year by way of tax. Needless to say the announcement has been received with a good deal of dismay in some quarters where the usual sit-on-the-fence attitude of the paper on most questions has given it a character for authenticity in providing—what is quite another phase of journalistic matter—news. People with better discernment have ridiculed the suggestion, and the president of the Automobile Club of Great Britain and Ireland has gone out of his way to hint that the authorities need no priming to impose high taxes on motor cars, while it sometimes happens that the very fact of emitting such unpleasant prophecies tend to bring about their fulfilment.

### The Tourist Trophy Race

This event was held over a forty-mile course in the Isle of Man, on the 27th of September, and was an entire success. The Isle of Man has a separate government and different laws from the rest of the United Kingdom, and being largely a holiday resort for English people, the local legislature, known as the House of Keys, cheerfully pass any law which will bring visitors to the island. The course is a very good one, the



LAXEY, ISLE OF MAN, ELECTRIC CARS START FOR SNAEFELL

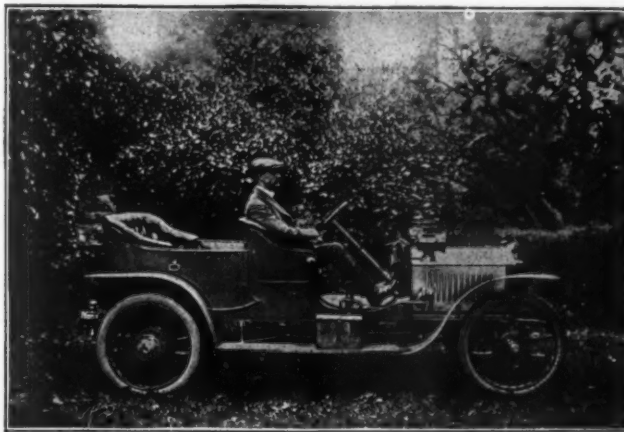
proposal could not be carried out, however, and the Salon will be held as usual in December. The uneasiness of the French trade with regard to Britain has now been augmented by an assault on their monopoly from another direction. The German Automobile Club are organizing a show to be held in a hall now in course of erection in Berlin, which will be used for exhibitions exclusively. This show will also be held in November, so that it would appear that if French makers are to do business with Germany and in this country they will require to show in both places a month ahead of their own Salon. They pretend that people who want to see the latest models must go to Paris, but if those models are not shown in Britain and Germany the home makers will hold the field entirely and that would suit the French makers' interests. Our imports of motor cars, motor cycles and parts of both for the eight months ended the 31st August, amounted in value to £3,188,829, or roughly, \$16,000,000. Most of these cars were supplied by France and the French trade will do nothing to let such a market slip through their fingers. Meanwhile, the Society of Motor Manufacturers and Traders are making good progress with arrangements for

ber, engines being received for tests up till the 15th of November. There is a good deal of experimental work going on in Europe with the object of securing a satisfactory substitute for gasoline paraffin, as kerosene is known here, receiving a good deal of attention, but it is recognized as being subject to the same

defect as gasoline, a limited supply, so that with many faith in the future of alcohol is growing. Alcohol will not displace gasoline in this country till the price of the latter goes up very high.

### Taxation Extraordinary

An English trade paper, more famed for its prosiness than anything else (if its extreme caution in expressing opinions on all matters relating to trade interests be excepted), has brought itself into quite a notorious position by an-



THE WINNER, THE HON. C. S. ROLLS, ON THE WINNING ROLLS-ROYCE CAR

country being of an undulating character, while at one point a rise of 1,400 feet is made in 7 miles. There were 49 cars entered, but of these 20 did not take part in the race. Six cars were disqualified for being from five to twenty minutes after the hour specified on the day—two days before the race—when they were required to be produced to the committee; and one was disqualified for practicing on Sunday against the instructions of the club. The conditions

of the race were that the chassis must weigh at least 1,275 pounds, the body, passengers, etc., 1,125 pounds, and that only one gallon of gasoline would be allowed for every 25 miles of the course. It was a straightaway race of 160 miles, there being no controls. Of the 29 starters only ten finished, and one of these was disqualified for losing ballast on the way. The winner was a 20 H. P. Rolls-Royce car, made in Manchester, and driven by the Hon. C. S. Rolls; time, 4 hrs. 6 min.  $\frac{3}{4}$  sec., or about 39 $\frac{1}{2}$  miles an hour; a 16 H. P. Argyll was second but was disqualified, as stated, for being under weight, letting in a 22 H. P. Berliet to second place and a 15 H. P. Darracq was third, the second and third cars being 26 min. and 36 min., respectively, behind the winner.

#### The Hon. C. S. Rolls

Mr. Rolls, the winner of the Tourist Trophy Race, is a most versatile man, and an expert motorist. He has been in the movement since its inception. He is the third son of Lord Llangattock, is a graduate of Cambridge University, the principal of the firm of C. S. Rolls & Co., who handle the Rolls-Royce cars, a member of the London Chamber of Commerce, holds a marine engineer's certificate and is an expert aeronaut. Indeed, in a balloon race from Paris a few days after the Isle of Man event, he represented the British Aero Club,

have each a bore of 100 mm. (3 15/16 inches) and a stroke of 127 mm. (5 inches). Of the four speeds, the third is the direct drive. The only car in the race capable of running the Rolls-Royce closely was an Arrol-Johnston, having a horizontal engine in which four pistons move in two cylinders. The fastest round of the winner was 1 hr. 13 $\frac{3}{4}$  sec.; that of the Arrol-Johnston, 1 hr. 14 sec., and that with a tire down. The Arrol-Johnston had a good deal of tire trouble and thus lost ground. It is an interesting fact that these two makes were first and second last year, the Paisley car being the winner.

#### The Tourist Trophy Race as a Trial

There is a great deal to be said in favor of the principle underlying the conditions governing the race. In the first place, it is required that the car shall be of a weight proportionate to its power; but as a mere racing car is not wanted, the gasoline supply is limited, so that excessive speeds cannot be attained. The con-

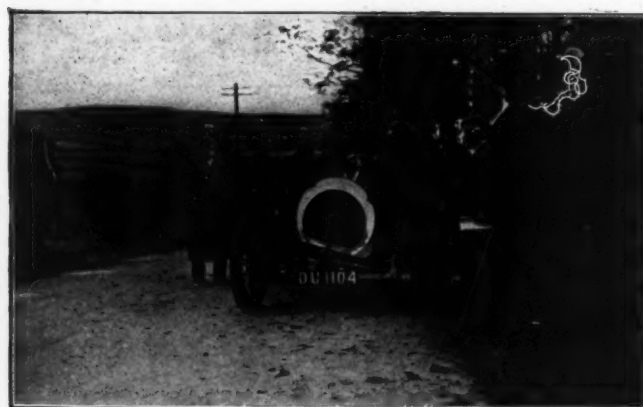
ditions have fulfilled their purpose, for although there is a tendency to describe the cars as freaks specially designed to comply with exceptional conditions, the details of the design are such as are desirable in a well made car. The fault of the con-

#### The Spoils of Victory

Mr. Louis Wagner, the clever young Frenchman, who piloted the Darracq car to victory in the Vanderbilt Cup Race, is said to have received \$12,500 for his work. Nobody believes one-half of



THE 24 H. P. DEASY CAR AT HILLBERRY, NEAR DOUGLAS  
Where it struck a flight of steps and was wrecked



THE DEASY CAR AFTER THE ACCIDENT

and remained longer up than any other competitor, but failed to travel as far as the United States representative, who won. He holds numerous prizes for success in various sports, including motoring, cycling, etc. His principal appearances in motoring competitions have been on the Continent, including the great Paris-Berlin race, but he has lowered various records in this country. At Welbeck, in Nottinghamshire, on October 12, 1903, he brought down the world's record for the flying kilometer to 26 $\frac{3}{4}$  seconds on an 80 H. P. Mors. The car driven by Mr. Rolls develops 22 H. P. at 1,000 revolutions. The four cylinders

test is that it restricts competition to cars of about one power, four-cylinder engines of about 100 mm. by 120 mm., developing their normal power at about 1,000 revolutions per minute. This limitation is obviously unsatisfactory, and, if the race is to continue and flourish, cars of differing power will have to be provided for by varying the quantity of gasoline supplied. Thus, three sizes of cars could be provided for by allowing a gallon of gasoline for fifteen, twenty-five and thirty-five miles, respectively. This proposal has already been under consideration and next year I shall expect to see a modification of

what they see in the newspapers, but no doubt the accomplished driver has been handsomely rewarded. The Darracqs are generous. Meanwhile, Mr. Wagner is the lion of the hour in motoring circles. He must pay the penalty of greatness. He is feted and feasted and he must listen to speeches spoken in a language that he does not understand. He must eat whether he is hungry or not. He must drink regardless of not being thirsty. He must see the Falls of Niagara and the autumn tints, and, of course, he will have to shake hands with Roosevelt. We hope he will not have to climb the Statue of Liberty or go down into the North River tunnel. These things should be reserved for the condemned. Of course, he will have to go to the opera and pretend to admire a hurricane of unset sounds fierce as the calls of hungry cattle in a Chicago stock yard. He will never likely be the same man again. Few come out unscathed from the pandemonium that awaits the hero in his hour of triumph. *Sic transit gloria mundi.*

Until the age of eleven or twelve boys are taller and heavier than girls. Then the girls for the next few years surpass the boys both in weight and height, but the boys soon overtake and pass them.



# THE AUTOMOBILE MAGAZINE

A PRACTICAL JOURNAL OF  
AUTOMOBILING AND  
ENGINEERING

THE AUTOMOBILE PRESS

ANGUS SINCLAIR, President and Editor  
JAMES KENNEDY } Associate Editors  
M. WORTH COLWELL }

## Advertising Department

JAMES R. PATERSON, Manager, N. Y.  
R. M. SMITH, New York  
R. M. STICKLE, Detroit, Mich.

## British Representative

A. F. SINCLAIR, 15 Manor Road,  
Bellahouston, Glasgow

Copyright, 1906, by the Automobile Press  
Entered at the New York Post Office as Second  
Class Matter

Eighth Year. No. 5 Price, 20 Cents

NEW YORK, NOVEMBER, 1906

Cable Address, Locauto, New York. Tele. 984 Cortland

Publishing Office, 136 Liberty St., N. Y.

## The Spirit and Letter of the Law

"Do you adhere to the letter of the law regarding the speeding of automobiles on public roads?" was a question put to one of the brightest and most conscientious members of the Automobile Club of America by an official whose duty was supervising the enforcement of the automobile laws. "I do not attempt to adhere to the letter of the law, for that would be impracticable, but I do my best to obey the spirit of the law," was the answer.

In spite of the numerous charges against automobilists for violation of the speed laws and of the punishment inflicted upon intentional and innocent transgressors the vast majority of automobilists conscientiously endeavor to obey the laws and do conform to the spirit of the laws, but certain law guardians are always acting on the assumption that every operator of a motor car habitually defies the spirit and letter of the law. The country is infested with multitudes of reptiles commissioned with police power over automobilists, who have no sense of justice, and they are constantly scheming to make out violations of law when nothing of the kind was done or intended. The framers had been unprincipled demagogues who hoped to obtain political aggrandizement from embarrassing part of the

community, but the people of the various States have no desire that automobilists should be persecuted and have merely given their sanction to oppressive laws through indifference.

That passiveness that permitted the enactment of unjust laws would not matter if the laws were ignored on both sides, as most of the blue Sabbath laws are, but with rustic Dogberrys exceeding the legal speed by an automobilist on a solitary road is a much more heinous offense than selling a cigar on the Sabbath day, although both are harmless violations of idiotic laws. The objectionable part of prosecutions for violations of speed laws are nearly all carried out vindictively. Men are prosecuted in the spirit of vengeance instead of justice. Constables will lie and perjure themselves to convict people of crimes that were never committed.

The spirit in which the automobile laws of New Jersey are enforced was well illustrated in Millburn, N. J., lately. A young lady was receiving instruction in the handling of an automobile and the local Dogberry arrested her for operating an automobile without a license. Her instructor was really operating the car, but that did not matter. The constable who made the arrest did his most vicious to have the maximum fine of \$500 imposed, but the magistrate was more merciful, and permitted her to go free on paying \$25 penalty.

In the face of such incidents as this official reports assert that the law is working satisfactorily.

## Revival of Liquid Air Power Claims

When any improvement has been made on the steam engine nearly all the inventors of the same or their friends have attempted to have it applied to a locomotive, the last place in the world for experimenting with a new and strange device. The same species of sentiment moved the people who were interested in the production of liquid air a few years ago to urge its use as a motive power for automobiles. Some experiments were made with liquid as a medium for operating engines, but they were ridiculous failures and had much to do with arousing a prejudice against liquid air, which is not entirely dispelled. There were also many shady transactions among rogues who established liquid air companies which have left behind an evil impression.

There appears to be a revival of agitation in favor of liquid air, reports being circulated from England that a man named Knudsen has invented a process for making liquid air which will reduce the cost to one-sixth of that involved in existing processes. As usual, the automobilist, who is successor to the locomotive owners, is looked upon as the

victim who can pay for pushing the latest liquid air enterprise into popularity. British commercial and engineering journals are discussing this news claim for the use of liquid air, and the positions taken are significant of the predilections of the two classes of journals. The commercial people perceive a new money-making business; the engineering papers practically say humbug.

A well-known mechanical engineer, writing to Engineering, says:

"The drivers of automobiles, then, are invited to buy liquid air at a price which is 1,200 times as great as that of a quantity of steam of equivalent power.

"Remembering that liquid air is only half as powerful as steam, and that it is impossible to mount the most economical engines on automobiles, we see that each horse power hour would want at least 30 pounds of liquid air. A 10 horse power carriage, therefore, would require for a 10-hour spin 3,000 pounds of liquid air to drive the engine. But it is impossible to keep this material without a quantity constantly boiling away; so that it would be necessary to begin the run with a supply about half as great again as is theoretically required—say 4,500 pounds—two tons of the motive liquid, at a cost of £112! The tank to store this must have a capacity of 72 cubic feet; and as a thick insulation of at least six inches would be required to check the boiling off as much as possible, the external dimensions of the tank to be mounted on the automobile would be 7 feet by 5 feet by 4 feet. Perhaps, however, the design provides for putting it on a tender coupled on behind.

"It is remarkable what optimism has characterized the proceedings of liquid air companies in the past, and enabled them to build and maintain the highest hopes on an unbroken succession of disappointments and mistakes."

In the same issue K. S. Murray alludes to the proposal to use liquid air as a motive power as an attempt to use "a most troublesome and unstable fluid, which must itself be first produced by the expenditure of an infinitely greater amount of power than that fluid possesses." Apparently the uses of liquid air in the production of oxygen and in preparation of an explosive for use in blasting, seem to be the only ones that bid fair so far to achieve any measure of commercial success.

## Correspondence Schools

As was to be expected, the mercurial spirit of the age has evolved the automobile correspondence school. Thousands of students are enrolling in the schools already in existence and new schools are springing up like mushrooms. This is not to be wondered at. Over fifty thousand automobiles were sold in the United States during the months of

the current year already elapsed, and it looks as if this number will be more than doubled next year. The automobile is a complex machine. In the exact adjustment of its multiplex parts one must possess considerable engineering skill to be able to adjust these parts, or, in other words, to reconstruct the machine. This skill does not come to anyone over night. To many it never comes, because a certain natural bent for mechanics is essential just as an ear for music is essential to become a musician. This mechanical faculty is peculiar to the American people, and it is safe to say that no other nationality could so readily adapt itself to a general mastery of the automobile.

The chief trouble with automobile education so far has been of two kinds. Either the learner began at the wrong end, and in his eagerness to drive a car on the road started at the steering wheel and experimenting with the pedals and levers got to know the general effect of these appendages without troubling himself about the internal mechanism of the machine. The mysteries of differential or transmission gearing was a sealed book to him, as inscrutable as the moons of Jupiter, and the general result was that the least trouble arising meant a hasty trip to the machine shop with its attendant delays and expensive bills. These helpless auto drivers have had their day, and a new system began a year or two ago which has led to another trouble not so pernicious in effect as the first, but equally deficient in the approach to a perfect mastery of the automobile. Beginning logically with the elementary construction of the machine, a large class of pupils have been listening to lectures and witnessing demonstrations by experts who, generally speaking, had the characteristics of a barrel organ. They were wound up to play a certain tune, and it would be unkind to stop or cross-examine them. The fund of information received from them had the bewildering effect of a kaleidoscope. Of a certain kind of value, it lacked the necessary element of personal contact, for which nothing can make up.

The correspondence school is an excellent thing in matters purely academic. In the construction, repair and running of complex mechanism it has its limitations. Locomotive running is perhaps the best illustration of how a mastery of a large and complicated engine can be obtained. It would be absurd to expect that the most learned professor in applied mechanics could manage to run a locomotive. Long and severe experience is necessary, an experience that becomes crystallized into instinct, so that when an emergency occurs the trained hands reach out instinctively and the proper thing is done at the proper time.

This is the one thing particularly needful—that physical experience should go hand in hand with the text book of the instructor. A portion of the day in the classroom or machine shop and another portion on the road guiding the automobile and marking the troubles if any arose. This would be the ideal automobile education which would thoroughly equip the master chauffeur and to this ideal academy the embryo auto driver is rapidly approaching if the signs of the times are to be judged as meeting the growing necessities of the hour.

### Automobile Racing

One of the amazing features of the Vanderbilt cup race was the multitude of people who were willing to endure considerable hardship and the loss of a night's sleep in order to witness performances of superlative speed. A racing automobile is capable of attaining the highest velocity of any human controlled machine, and it fascinates people in proportion to its ability to outstrip all other racing mediums. If it ever becomes possible to harness a car to a projectile, the racing automobile will then take second place as a public spectacle. Till that greater velocity arrangement comes the automobile will continue in the lead of popularity.

Road racing of high speed automobiles is a dangerous sport at the best, but it is made doubly dangerous in America by the recklessness of the spectators who are under no influence of control. It is a fair estimate to say that there were 350,000 persons out as spectators of the Vanderbilt cup race. At many parts they lined the road like a pair of walls, leaving a lane scarcely wide enough to clear the racing machines. As soon as a racer passed, this multitude of persons filled the middle of the course to look at the car which had passed and to watch the approach of the next one. As a car dashed along at higher than express train speed it was very reluctantly that they moved off the middle of the road to permit the racer to pass. This was repeated at many places and was kept up all the time the race lasted. That one person was killed and another one injured was nothing to be surprised at. The marvel was that scores of persons were not struck. The idiots who were struck were not more reckless than thousands of others; they were merely less fortunate.

The Vanderbilt cup race proved the popularity of that form of sport, but it also demonstrated the imperative need for a protected and private course where the racing could be carried on without danger to the spectators. It is not enough to fence a public road with wire netting. That was done on a considerable part of the Long Island road, a netting eight feet high having been erect-

ed at the places where it was expected that the crowd would be thickest, but it did little good. The human brutes who permit no obstacle to interfere with their pleasure pulled down much of the fence, and some of them went at the work with wire cutting pincers.

It seems to us that the numerous rich men in the United States interested in automobile racing would form a club and purchase a large tract of land where a long private racing course could be established, or the enterprise could be taken up by the Automobile Club of America. There is plenty of barren, sandy land in Long Island and in New Jersey that could be purchased at almost a nominal price. There a suitable racing course could be laid out and courses for other sports could be formed with all the conveniences needed for the comfort of people who wished to spend a few days or weeks at the place. Under proper management sporting grounds of this character could be made a profitable investment.

As justice cannot be done to automobile racing cars in a course shorter than twenty miles the space necessary for such a course could be greatly curtailed by arranging the course in the form of a spiral with a viaduct to connect the outer circle with the starting center. A grand stand could be erected at the most convenient point for watching the race and the spectators would be in a position to witness the whole of the contest.

### High Medical Authority Says Scorchers Is Crazy

"The Psychology of the Selfish Motorist" is the subject of an exhaustive article in the London *Lancet* by an eminent physician. He makes the startling announcement that automobilists who disregard the rights of the public are suffering from abnormal auto-concentration. The well-known facts are mentioned that the coming of the automobile has afforded an illustration of two curious human traits, viz., the long suffering of some non-motorists and the blindness of others to the claims of other people to the use of the road.

We have found a great many selfish people of hoggish propensities who seem to be entirely oblivious to the rights and comfort of others and we blamed the characteristics to natural perversity, and it is comforting to learn that the real cause of the hateful traits is abnormal auto-concentration. In regard to the blindness of some automobilists to the rights of others to the public highway the writer says:

"This latter trait has developed to such a degree that the medical question may arise whether we may not have here some pathological phenomena associated with the possession of a motor car; whether, in fact, the driving of such a



vehicle may not lead occasionally to such a condition of auto-concentration as to leave the driver for the moment utterly unmindful of all other interests than his own. Be this as it may, this callousness to the rights of others only became apparent with the introduction of motor cars, and the disease, if so it may be termed, has undergone a marked exacerbation during the recent spell of rainless weather.

Behind many motor cars is a trail of blinding dust noticeable in some circumstances for fully half a mile, producing a temporary eye and throat soreness among those whom it envelops and rendering the air for the time being quite irrespirable. Of all this too often the selfish motorist appears to be entirely unconscious; he passes on his way regardless of all the discomfort which he occasions, unmindful of what he leaves behind, and concentrated alone on what is to be seen ahead. Without the least compunction he rushes through the villages, raising excrement-bearing dust into the atmosphere, to be carried indiscriminately into the eyes and throats of the villagers and onto the meat, milk and other articles exposed for sale as human food.

Much of all this obvious injustice might be avoided were all motorists (as some are) possessed of elementary good taste or fellow feeling, and were ready to slacken speed in circumstances wherein the dust which is raised is likely seriously to inconvenience other users of the public thoroughfares. The pathological side of the selfish motorist is still further accentuated by the fact that for the most part he is creating a nuisance for his own private purposes.

There is no reason, other than self-indulgence, why the selfish motorist should pass from one place to another under conditions which materially detract from the comfort of other people, raising fecally-laden dust and increasing the chances of dust-borne infections or augmenting the cough of the unfortunate consumptive living by the wayside. It must be recognized that there are motorists who are mindful of the comfort and claims of those who use the highroads for purposes other than those of pleasure, but their virtues are obscured by the failings of the unscrupulous scorcher, and they suffer with him in the general esteem."

#### The Gasoline Omnibus

Americans have been justly so celebrated for producing the very best forms of cars for steam railways and for electric lines that it seems strange to witness motor omnibuses being imported from abroad. Yet it is a melancholy fact that foreign builders of omnibuses are able to pay the high pro-

tective duty and compete with American manufacturers.

The company that has from time immemorial operated the most antiquated form of horse drawn omnibuses on the aristocratic Fifth avenue, New York, have recently imported a 30 H. P. automobile omnibus as a sort of experiment. There is no fear that mechanically the motor bus will be found to be a great improvement upon the slow moving horse car, but certain objections may be raised by the aristocrats of Fifth avenue, the most exclusive thoroughfare in the world, that will curtail the success of the auto bus.

I know of no region that approaches so closely the exclusiveness of Fifth avenue, New York, as Belgravia, London, and the residents of the latter district are like Hotspur's boss, violently up in arms against the odorous motor

divided between American and European inventors and the most casual reader cannot but be struck with the fairness of the estimates of the abilities of the variously gifted men brought under review. The style is at once terse and clear and free from unnecessary verbiage and the portraits and other illustrations add much interest to the work, which ought to have a wide popularity.

Of the American contingent we find the names of Benjamin Franklin, John Fitch, Nathan Read, Oliver Evans, Robert Fulton, John Stevens, Robert L. Stevens, Eli Whitney, Thos. Blanchard, Elias Howe, John Ericsson, Peter Cooper, George H. Corliss, Alex. L. Holley, William R. Jones and James B. Eads.

The list of Europeans embrace Richard Arkwright, Thomas Newcomen, James Watt, Matthew Boulton, William



FORD'S FAMOUS \$500 4-CYLINDER RUNABOUT

bus coming betwixt the wind and their nobility. Time will tell what the noble New Yorkers will do about their favorite street being invaded by the evil smelling bus, for they have already more than their share of automobiles that spew clouds of badly mixed hydrocarbons.

#### Book Reviews

Eminent Engineers. By Dwight Goddard. 16mo. 280 pages. Cloth.

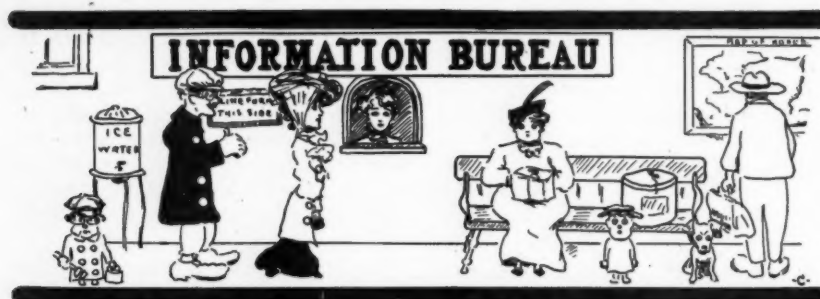
The author of this excellent work is a well-known writer on engineering subjects and a member of the American Society of Mechanical Engineers. The biographical sketches, of which there are thirty-two, include those who have accomplished something of importance in the development and application of power and machinery. The book is evenly

Murdock, William Symington, Richard Trevithick, Henry Maudsley, George Stephenson, I. K. Brunel, James Nasmyth, Alfred Krupp, Charles Babbage, Sir Joseph Whitworth, Sir Henry Bessemer and Sir William Siemens.

Two noteworthy runs by Maxwell cars have lately been reported by the company's agents. The Maxwell Briscoe-McLeod Company, of Detroit, reports that a speedster has completed a tour of Ohio, Kentucky and Indiana, covering 1,200 miles in thirteen days, at a cost of less than one cent per mile and with absolutely no trouble or adjustments.

The patterns which adorn cashmere shawls are copied from the leaf of the begonia.





This department is made up from questions sent in to the Information Bureau. Most of the questions received are answered direct.

## Questions Answered

### Difference Between Ethyl and Methyl Alcohol

P. S.—What difference is there between ethyl alcohol and methyl alcohol, names which I have noticed in the discussions about alcohol for use in driving automobiles? A.—Ethyl alcohol, which forms the basis of all fermented liquors, is produced in various ways, but mostly from grain or other product containing starch or sugar. Methyl alcohol or wood alcohol is made from the destructive distillation of wood. It is of a poisonous nature and for that reason wood alcohol is used for denaturing ethyl alcohol intended for industrial purposes.

### Friction Drive

J. R. B.—The "Lambert" friction drive is an arrangement by which the power is transmitted through a disc plate instead of toothed wheels. The change of speed is regulated by moving the frictional contact toward or away from the center, the speed being lessened as the point of contact approaches the center of the disc.

### Brass and Bronze

C. B.—The only difference between brass and bronze is in the metal that is mixed with copper. Brass is made of a mixture of copper and zinc. Bronze is made of a mixture of copper and tin. The parts of each vary according to the uses to which the brass or bronze may be put. There are many varieties of mixtures, especially of brass.

### Six Cylinders

M. E. B.—We can hardly be expected to decide as to the merits of a six-cylinder engine. Everything else being equal, its power is developed more evenly than a four-cylindered engine. It should run smoother and crank more easily. A four-cylindered engine can be made at less expense, occupies less room, and requires much less equipment. Such questions are matters of taste with individual buyers.

### Cracked Cylinders

R. B. K.—Cracks in cylinders may be produced by a number of causes. Water freezing in the cylinders in winter is a frequent cause of this trouble. Hot water used too freely for warming purposes may also cause cracks. A dry piston covered with gum formed from burned oil may also cause cracks in cylinders that are of irregular thickness. It is beginning to be observed that cylinders the walls of which are of equal thickness are less liable to crack than those whose construction calls for heavy bosses or other protuberances. The continual variations in temperature hasten the crystallization of the thinner parts and induces brittleness, which adds to the degree of liability to fracture.

### Graphite

T. F.—It has been demonstrated by many years' use in running locomotives that the use of graphite is a very material aid to lubrication. It should be used sparingly, as it is difficult to retain it in the bearings if used lavishly. A little experiment in mixing it with grease will show the consistency best suited to the larger bearings, while in the smaller parts care should be taken that the graphite does not clog the oil dropping regularly on the bearing. The use of graphite is particularly beneficial in cylinders. It not only aids lubrication but has the effect of polishing the surfaces of the piston and cylinders till they shine like mirrors.

### Holes in Castings

R. McR.—Blow holes in castings, if not too large, can be readily filled by drilling and tapping the hole and screwing in a threaded piece of copper. If in the cylinder, the copper can easily be riveted and smoothed off in the inside. Holes in large castings are generally filled with lead, but a mixture of ten parts of lead with two parts of antimony and one part of bismuth is more likely to be watertight, as the solution has the quality of slightly expanding in cooling.

### Wheel Resistance

W. A. S.—If a horse can draw a certain load over a level road on iron rails, it will take one and two-third horses to draw the same load on asphalt, three

horses to draw it over good McAdam roads, three and one-third horses to draw it on Belgian block, five on ordinary Belgian pavement, seven on good cobble stones, thirteen on bad cobble stones, twenty on an ordinary earth road and forty on a bad sandy road. These data of resistances to wheel traction have been established from engineering experiments of admitted accuracy. They apply to automobiles as well as to horse-drawn vehicles.

### To Make a Wiped Joint

Chauffeur.—Melt the solder in a ladle and pour it on the joint quite plentifully, so as to heat it. As the solder accumulates, wipe it into shape with a piece of cloth folded several times and greased with tallow. The cloth is also used to hold the solder as it is poured on the pipe.

### Pitch of a Screw

L. B.—The pitch of a screw is the distance from any part of one thread to the similar part of the next one. If you know the number of threads to the inch of any screw you can find the pitch by dividing one inch by the number of threads to the inch.

### Adherence of Belts

A. M. R.—The adhesion of a belt to the pulley is due, primarily, to the tension given by the belt which pulls to the face of the pulley. This excludes the air from the surfaces between the pulley and the belt, and the pressure of the atmosphere outside helps to press the belt to the pulley. That is a theory about belts holding, but the practical view is that the belt is driven or the pulley is driven by the friction between the two surfaces.

### Work in Auto-Car Factory

A recent visit to the factory of the Autocar Co., at Ardmore, Pa., revealed preparations well advanced for the 1907 line.

There was also exhibited a number of Limousine cars ready for fall delivery for winter use, which were attractive in the highest degree.

Most cars fitted with Limousine bodies are unwieldy in crowded city traffic; and while these are roomy and luxuriously appointed, the car itself is so readily handled in busy streets as to have a distinct advantage over most machines of this type, so that a ready sale of these superfine winter vehicles seems assured.

Autocar agents everywhere can supply full particulars.

To hear that Percy Pierce, winner of the Glidden and other trophies, has gone into the bicycle business again, sounds as though he were dropping back behind the times and joining the League of Past Performers. Sorry to see Percy lose the humming-car habit.

## Mechanical Engineering

### Slotting Shafts and Spindles for Keys

The repair man almost always has some work in hand involving slotting of shafts and spindles for keys. Fastening keys for service in motors may be classed under two heads: One includes the ordinary flat keys, acting as diagonal struts for securing permanently the heavier kinds of gears, cams, levers and kindred devices in the mechanism of the automobile. The other class includes the deep, square keys, which keys hold by a shearing strain. These keys can be gotten very true and hence are chosen for the finer work. They can be removed more readily in case the gear, wheel, or other part has to be removed. Included in these two general classes are the various forms of keys for which the slots must be made. First of all, we must make sure of getting a secure grip on the shaft or spindle in which the keyway is to be made. It is a good plan to have some shafting holding contrivances on hand in the shop. You can construct devices by which the shaft can be held securely in position by means of setscrews. But there are objections to the sharp point of the setscrew on the shaft. Besides, in the event of a severe strain, the shaft is liable to turn, causing the point of the setscrew to gouge a furrow in the shaft, and perhaps lose its hold completely. The arrangement exhibited in Fig. 1 may be used to advantage. The block *a* is provided with a shoulder *b*, and the shaft is adjusted evenly against this shoulder as shown. Then there is a slot as shown at the other side of the block, in which the tapering keys *c, c*, are placed.

The beveled keys can be driven in such way that the pressure is exerted upon the side of the shaft in the right place and the latter is firmly secured in position while the slotting is done with the cutting tool *d*. It is a type of vise arrangement which will be found handy for milling shafts of small size. Fig. 2 is another pattern of block used by repair men on automobile work. This block calls for the use of the objectional setscrew as at *f*. The principal objections of the penetrating point of the setscrew may be overcome, however, by using a sleeve. This sleeve can be adjusted on that side of the shaft and the point of the setscrew can be put into contact with it, instead of with the side of the shaft itself. The block is furnished with the upright at *e* for supporting the other side of the shaft. There is a cushion *g* below. The milling tool is marked *h*.

V-blocks are, of course, popular in the shop. They can be used on common forms of milling machines and planers. The form of the block in this cut is such

that the milling cutter can pass completely over the top, as there are no interfering portions. In some of the shops I noticed that the V-shaped blocks were furnished with a crossbar above, and as this bar is attached with setscrews, only one end of the shaft can be cut at the time, because the bar interferes. The shafts in the V-shaped depressions *i, i*, in this device, are held securely during the milling by means of the clamp block *j*. The arrangement is simple, as can be seen. A hole is bored in the block be-

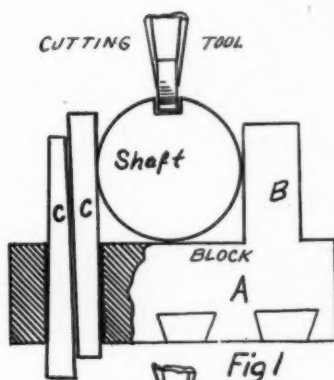


Fig 1

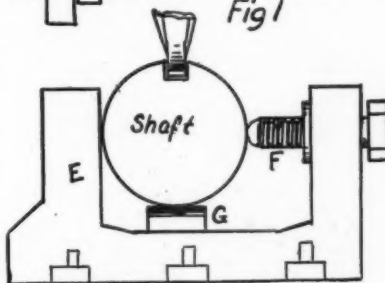


Fig 2

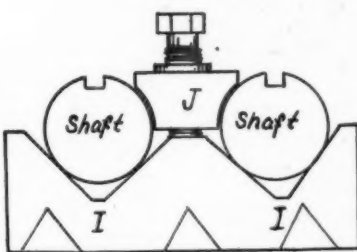


Fig 3

SLOTING SHAFTS AND SPINDLES  
FOR KEYS

tween the recesses and this is threaded for the clamping screw.

The clamp *j* is rounded on the sides to fit to the circular form of the shaft. Hence when the setscrew is turned the clamp is brought down tight and the shafts are held for the slotting. The block illustrated in Fig. 4 differs from the other forms in that it relies upon a single clamping screw to hold the sides *k, k*, on the work. The block is made with the side pieces adjusted in slots in the base piece. Hence the side pieces can be moved back and forth suf-

ficient distance to permit tightening in on the shaft in process of milling. A number of different sizes are required, and the best way is to bore through the metal and make a core the size of the shaft to be milled. Then the piece can be sawed through. This assures both pieces being alike. Then the pieces are drilled for the clamping screw and are fitted to the base.

A good method of slotting a shaft on a planer is exhibited in Fig. 5. The side pieces *n, n*, are fitted to the bottom piece in such way that they can be adjusted to suit the size of the shaft. The setscrews

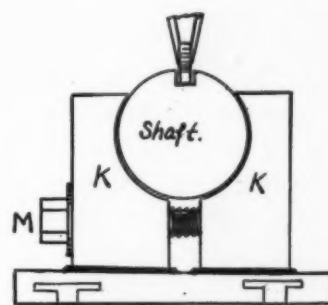


Fig 4

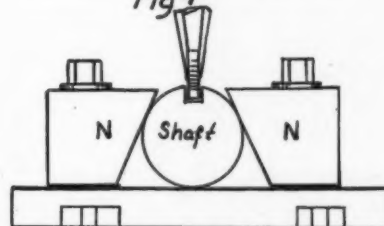


Fig 5

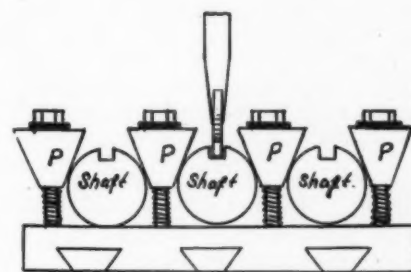


Fig 6

SLOTING SHAFTS AND SPINDLES  
FOR KEYS

are fitted into holes bored into the base, and the slots in the pieces give a play of about half an inch for adjusting. A different form of this same type of slotting device consists of having one side furnished with an adjusting screw, the point of which contacts with the work in operation. In this case, the main blocks are secured permanently to the base and the adjusting is done with the setscrew. Sometimes it is necessary to mill a number of shafts of the same kind alike.

Fig. 6 shows a good way to accomplish this. The plate is bored to re-



ceive the several setscrews as shown. A block, *p*, is likewise drilled to receive the setscrew. The bore in the block is large enough to permit the bearing of the setscrew to revolve freely. Hence the setscrew can be turned down while the block remains stationary. Thus a number of spindles can be arranged in the order exhibited and adjusted to the planer and milled at the same time.

"REPAIRMAN."

### Case-Hardening Wrought Iron

This is a paper read at the recent annual convention of the National Railroad Master Blacksmiths' Association by Mr. George F. Hinkens, foreman blacksmith of the Westinghouse Air Brake Co., at Wilmerding, Pa.

"Wrought iron is nearly pure decarbonized iron and is not possessed of the property of hardening. Articles

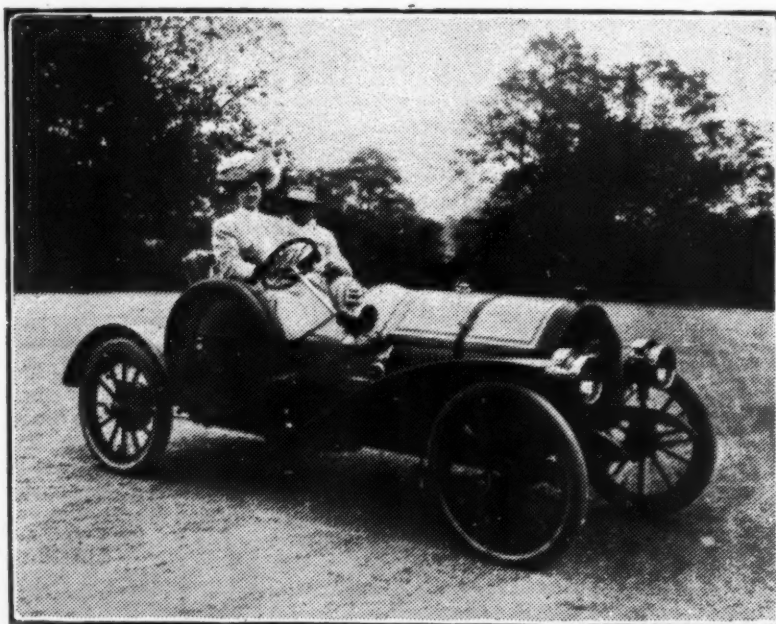
granulated bone of the thickness of 1 in., upon this a layer of the articles is placed, then another of bone about  $\frac{3}{4}$  in. in thickness, and so on until the box is nearly full, finishing with a layer of bone on top of the articles, which should be 1 in. deep, so as to well protect the first or top layer of articles and prevent blistering.

"The packing completed, the lid is put on and hermetically sealed or luted with loam or fire clay. The box, or boxes, are now placed in a suitable furnace. The furnace should give a uniform heat of 1,350 to 1,550 degrees Fahrenheit as recorded by the Morse Heat Gauge. Overheating is injurious and will crystalize the iron and make the articles brittle. In treating wrought iron for case hardening there are several considerations, the principal one being heat, and duration of time for carbonization, same being governed by the size or

a bearing on the fibrous structure of the material. A high and excessive heat will render the material brittle and if the article is light in structure it is apt to break easily in service; therefore it behooves us not to overheat or unevenly heat articles to be case hardened. Consequently keep the furnace at a regular or constant temperature, for if the articles to be case-hardened are overheated, damage is done in so far as a fibrous structure is concerned, the article becomes hard, but the interior is brittle and crystalline when it should be fibrous and showing the dark or black appearance of its natural structure with a fine grained surface analogous to tool steel. Where I am employed we do a great deal of case-hardening, all of which is done under my supervision and direction. We case-harden as much as five tons of material in 24 hours. This requires ten furnaces. We are exceedingly particular about the treatment, as much so as in the treatment of tool steel when tempering.

"Some years ago I was employed where the general foreman had charge of case-hardening. Of course a general foreman has and should have that right or privilege. However, this particular individual thought he was the 'Only' in that particular branch. Case-hardening was his 'long suit.' He arrived at his conclusion from the great depth of case or shell of hardness he could produce and the quickness of time in which he accomplished the result, never taking into account the preservation of the natural and proper structure of the material. Well, he got a very deep case or shell and very hard, but the articles were more akin to pig, than to wrought iron, due to excessive heat. They case-hardened crank pins in this manner. The crank pins were of the solid-rod type with a projecting threaded end. Their method of putting the crank in the driving wheels was by placing a sleeve over the threaded end of the pin, this sleeve butted against the shoulder of the crank pin. A battering ram was then brought into service, striking the sleeve. Of course this method produced a great shock at the weak point of the pin, which was at the small or nut end. Oftentimes the end in question would drop off while driving in the pin. Upon examination I found the structure of the material as friable and brash as cast iron. The amazing part of it was that the general foreman blamed the material. Of course the material was bad, but not until this particular genius put the finishing touch on it by his peculiar and wrong method of case-hardening.

"The furnace is an important factor. An oil or gas furnace, to work successfully should be so constructed as to secure the proper mixture of gases, a



CHAUFFEUSE MAKES LONG RUN

Mrs. Frederick Grant, in the 40 h. p. Thomas Runabout, which she drove from Detroit to New York City to attend the Vanderbilt Cup race

By Courtesy of Evening Mail

made from wrought iron may be externally converted into steel without depriving the interior of its natural character or structure. The process is called 'Case Hardening.' The object of case-hardening is to obtain an external steel encasement with a core of fibrous iron in the center. This effect is produced by heating in a perfectly air tight box with an animal carbonizing ingredient. The box should be of plate or cast iron from  $\frac{1}{2}$  to 1 in. thick, the size and thickness of box depending on articles to be operated upon. The articles are put in the box in alternate layers with the carbonizing ingredients, commencing at the bottom of the box say with a layer of

bulk of the work to be case-hardened. In point of importance heating stands first, for if the primary cause of bad case-hardening could be traced, its origin, in a majority of cases would be found in bad heating. There is no operation connected with case-hardening which requires more watchfulness and gives more anxiety than proper heating.

"It may therefore repay us to examine with care the conditions to be observed in obtaining results: As to heat, we must have a thorough admission, uniform and exacting to a degree. The heat must be constant and uniform and should not exceed 1,350 degrees Fahrenheit, for the degrees of heat will have



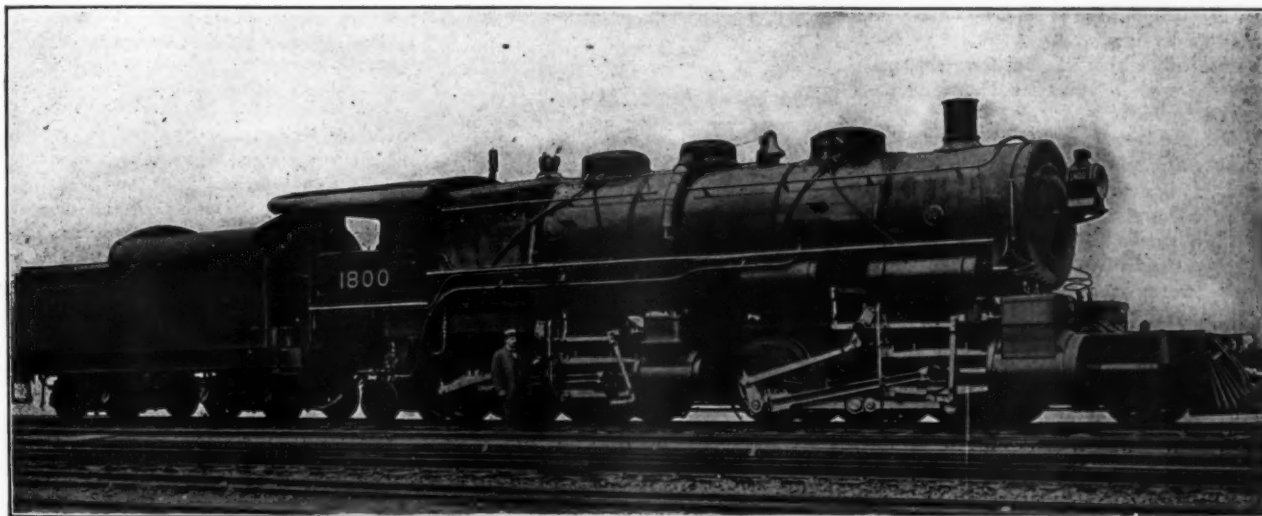
thorough and even combustion in every part of the furnace. The furnace should be constructed with the roof arched throughout its entire length in order that the heat may be reflected directly and uniformly upon the boxes. The passage to the chimney is formed underneath the hearth, causing a down-

an even heat throughout every cu. in. of the furnace interior. The furnace thus described can be heated with either oil or gas and has a capacity of eight boxes .12 ins. wide, 20 ins. long and 8 ins. high. The size of the box as a matter of course is governed by the size of the articles to be case-hardened.

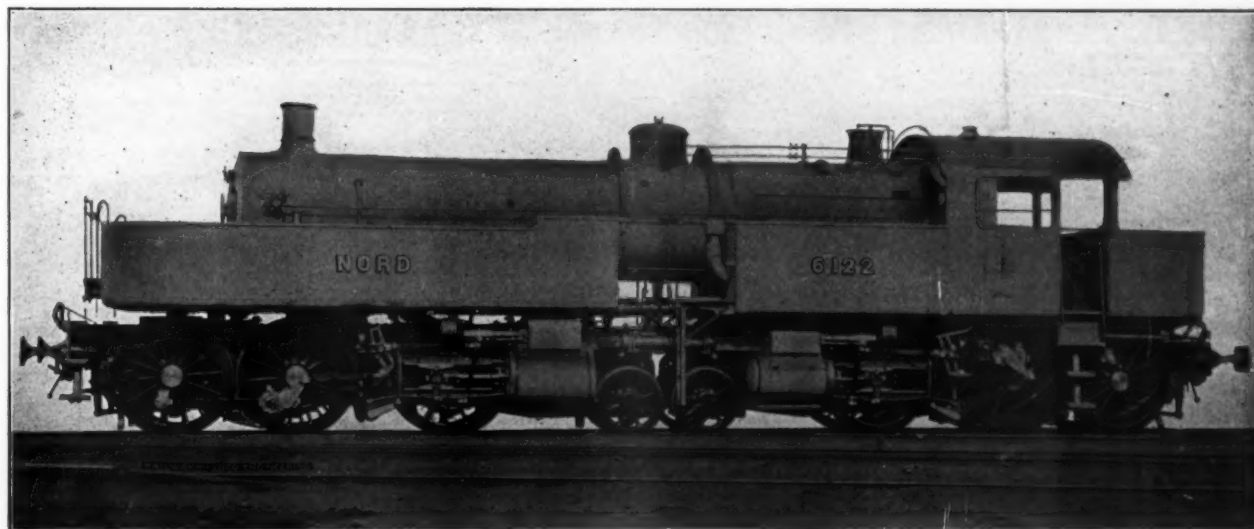
This method is dangerous for the operators and should, if used at all, be used in a very careful manner."

Standardization, so essential in motor car construction, is very difficult to effect. Of course, a manufacturer has to cater more or less to the whims of a

## A PAIR OF MONSTER LOCOMOTIVES



MALLET ARTICULATED COMPOUND FOR THE GREAT NORTHERN RAILWAY, UNITED STATES



TANK ENGINE FOR THE CHEMIN DE FER DU NORD, FRANCE

draft. The action is to throw the heat down upon the boxes. There are six flues separated from each other at the end farthest from the fire place. These flues run parallel towards the fire place or combustion chamber where they are connected downward with the main flue under ground, thence into the chimney. It will be seen that this arrangement of furnace insures, as nearly as possible,

"A quick method for case-hardening consists in heating the material to be hardened up to a red heat and then submerging it in a bath of molten cyanide of potash, leaving it in from one to five hours, according to the bulk of material to be hardened. Cyanide of potash gives off poisonous fumes, consequently the vessel containing it should be placed in a furnace with a draft.

fastidious public who oftentimes demand fittings and extras quite unnecessary as well as inappropriate. The makers of the Columbia car have effected a standardization in their cars which render them especially exclusive and distinctive. Recently a prospective purchaser desired a Columbia 28 H. P. car of such color combination that to follow out the suggestion would have been ridiculous.

### Aerocar Works

Detroit is rapidly coming to be looked upon as one of the leading centers of the automobile industry. Much of the credit of this is owing to the enterprise of the Aerocar Company, whose extensive works are located there, and are, perhaps, the most substantial buildings of their kind in America. The main building covers a space of 60x400 feet and is made of brick and steel, with wood flooring. A driveway 60 feet wide extends the entire length of the building. A separate building, 24x130 feet, is located on the other side of the driveway, and is fitted with a complete testing apparatus.

The machines already in operation number 250, and are all the best of their kind. It is expected that the works will be in full operation in every department in a few weeks more with a steady output of 25 finished cars a week. The works were opened in January of the present year and the reputation of the Aerocar is already an enviable one. One of the company's cars won the flexibility contest at New York, another

"But the visitor was not at all impressed. He said, with a laugh:

"You ought to hear the echo at my place in Sunapee. Before getting into bed at night I stick my head out of the window and shout, 'Time to get up, William!' and the echo wakes me at 7 o'clock sharp the next morning.'"—Detroit Free Press.

On the Isle of Portland, in the south of England, there are certain quarries of limestone which have been worked for many years, in former times producing building stone. In 1824 an Englishman named Joseph Asplin, of Leeds, patented a process for mixing and burning lime and clay. The product looked so much like the Portland limestone that he called it "Portland cement," from which the commonly known name given to nearly all kinds of hydraulic cement was derived.

### On the Last Page

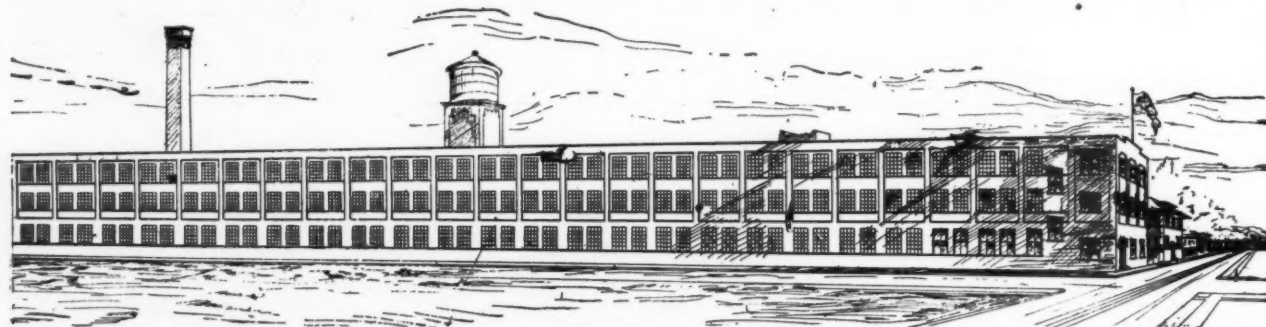
An English writer (woman, of course) peeped at the endings of six new novels.

water's too cold; if she gets red, then I know it's too hot."

### Under the Anheuser-Busch

For several score of motoring postmasters to be entertained, cars and all, at a brewery, seems like something new, but that is what happened the early part of this month, when the delegation of postmasters who attended the St. Louis convention were given a pink tea by the Anheuser-Busch people in their large brewery there. Lemonade, buttermilk, sarsaparilla and Postum were served.

The badge used by the North Staffordshire Railway, of England, is one of the quaintest signs to be seen anywhere. It is in the form of a knot, and is painted in gold on the sides of the engine tenders. The sign is known as the "Stafford Knot," and was borne years ago by the Barons Stafford. It is now adopted by the Dukes of Sutherland, whose eldest sons bear the title of Marquess of Stafford. Various American railroad companies have attempted to



FACTORY OF AEROCAR COMPANY, DETROIT, MICH.

was second in the economy contest at the same place, while still another won first prize in the economy contest at Minneapolis.

Among the many admirable features of the Aerocar that have stood the test successfully, the air-cooling device has never failed even in tropical climates, and in one year's time it has triumphantly demonstrated the fact that it is all that its makers claim it to be—"a practical car built by practical men."

### Remarkable Echoes

President Murphy, of the Chicago National League Club, told at a baseball dinner a remarkable echo story.

"There was a man," he began, "who had a country home in the Catskills. He was showing a visitor over his grounds one day, and, coming to a hilly place, he said:

"There's a remarkable echo here. If you stand under that rock and shout, the echo answers four distinct times, with an interval of several minutes between each answer."

The first concluded thus: "Oh, how I love you." The second: "'Kiss me,' she said, and their lips met." The third: "You may kiss me if you like." The others much the same. Very nice, to be sure, but we have seen an ending that beats 'em all. To wit: "They leaned forward until their lips met, and the kiss was mutual."—Puck.

Marshall P. Wilder has a story of the tribulations of a friend in securing a competent nurse for his infant daughter. One day it seemed to the members of the family that the child was ailing; and the consensus of opinion was that the trouble resulted from the method employed in bathing the youngster. "We're afraid," said the mother to the nurse, "that the water is not of the proper temperature. We shall get you a thermometer, so that you may tell when the bath is too hot or too cold." "Oh, as to that, mum," promptly replied the nurse, "I don't think it's needed. I can tell easy enough; if the little one gets blue, the

popularize badges for locomotives and cars, but the levity of American trainmen turned the sign into ridicule. One railroad company uses a badge which trainmen call the "liver pad."

Ale was known as early as 404 B. C. Herodotus described the method of brewing barley wine. Alcohol did not afflict mankind till about the tenth century, when the Saracens of Arabia Felix began sending it to the thirsty warriors of Europe. The Chinese made alcohol centuries before the Christian era.

Mrs. Nuritch—Mebbe we'd oughter get one o' these "family escutcheons" there's so much talk about. Every swell house seems to have one. I wonder what it is.

Mr. Nuritch—Oh, I guess "escutcheon" is jist Eyetalian for "skeleton."

That gentleman with the slam-bang sounding title, the Amir of Afghanistan, has gone in for the motor car craze. A large touring car has been presented to him by the British Mission at Kabul.



### The E. R. Thomas Detroit Co.

The E. R. Thomas Detroit Co., who were organized a short time ago in Detroit to construct a new Thomas automobile for the Buffalo company of the same name, have just leased the factory shown here. It was formerly occupied by one of the match companies who recently shut down, and it proved an opportune find for the Thomas Company, who were looking for just this type of plant.

In the automobile business, protection from fire is essential above everything else, as the sales of cars are only made at certain seasons, and fire in the middle of the rush season would result in enormous loss to any company suffering this disaster.

However, the new company feels that they are amply protected on this score, as their new factory is equipped throughout with sprinkler system, fire extinguishers, fire doors, standpipes with hose attachment, and all of the other fire fighting devices that can be of any avail in case of conflagration. Many of the floors in the factory are of solid plank, 2x6 inches, set on edge, making a wonderfully strong floor 6 inches in thickness. This makes a particularly slow burning construction.

Having been used as a match factory, the plant is exceptionally clean, and excellent provisions are made for the care of employees, hot and cold running water being furnished to a large number of wash tanks throughout the building. The plant is equipped with a large steam engine and boilers, but it is possible electric power will be used to run the machinery, as being a trifle more convenient. The location is Harper and Dequindre streets on the Grand Trunk and Lake Shore R. R. A siding from the Grand Trunk runs into the factory yard, giving desirable shipping facilities.

To further guard against fire, no gasoline will be allowed in the main plant, and all the testing will be done in a separate building.

The new company will employ several hundred men in rush season, and as their output is sold already, they have at once become a large factor in the automobile industry.

The active members of the company, Messrs. H. E. Coffin, R. D. Chapin, F. O. Bezner and Jas. J. Brady, are very busy now in getting things rounded into shape at the factory to start an early

production. Orders for most of the raw material have already been placed, and the first car is due to be out in November. Mr. E. R. Thomas, of Buffalo, the president of the company, writes that, even at this early date, contracts are being made with agents for next year, and a considerable number of the Detroit product has already been sold.

Announcement is made of a "largest garage in the world" about to be constructed at Riverside Drive and 161st street, New York city. The Heights Garage and Storage Company, recently incorporated at Albany, have purchased eleven lots for the building from the North Riverside Drive Improvement Company for \$97,000. The capital stock of the company is placed at \$12,000. It

chasers calculate that having six cars of one standard make will make garage work easier and less expensive, a point that other large motoring families might consider.

Now another foreign count has gone into the business of selling motor cars. Count Castiglione, who is well known abroad in the motor world, has become sales manager for Cryder & Company, who are American agents for the Mors cars.

### New Licenses for the Keystone State

On and after December 1, motorists wishing to drive in the State of Pennsylvania must have red enamel tags with white numerals and letters on their cars



FACTORY OF THE E. R. THOMAS DETROIT CO., DETROIT, MICH.

will run from the Drive to the New York Central tracks, with a 65-foot frontage on the former. Among the incorporators are: Charles E. Finley, president of the Aetna National Bank; R. H. Fowler, of Scott & Bowne; William Gamble, head of a big produce commission house; Wilbert Garrison, William Hills, Arthur L. Smith, John D. Beals and Walter R. Comfort.

The Aerocar Company, of Detroit, reports that a Los Angeles man has placed a wondrous order with them, to have six Aerocars delivered for use in his family. Half a dozen motors at once for one family certainly sounds like a record-breaker, but the gentleman in question has four big brothers living with him, which partly accounts for such a whopping order. The pur-

in place of the blue ones now in vogue. New licenses cost \$3, and changing the color of the tags will prevent cars from sailing under old licenses. December 1 is the beginning of the fiscal year in the State Highway Department.

Mr. Louis Sackett, general sales manager of the Moon Motor Car Co., announces that his concern will turn out between 250 and 300 cars next year. The Moon is patterned after the Italian Fiat and is a most flexible car. He says that his machine is a crack-a-jack hill climber and he is frequently heard humming the strains of that popular air "Moon Dear."

C. A.-P. R. Pastene will build a new garage at the corner of Talbot avenue and Spencer street, Dorchester, Mass.



The building will be of cement blocks, with a spacious cellar in which the machine shop will be, and will comfortably hold 70 cars. The building, for which the ground has been broken, will have a front of 76 feet on Talbot avenue and 150 on Spencer street, and it is expected it will be completed by January 1. Bert Brewster, at the present Talbot avenue garage, will be the manager.

On December 3 a school for the instruction of drivers will be started in connection with the Thomas Motor Company's factories, at Buffalo. It will be in charge of F. J. Clark, private secretary, who is making arrangements for the instruction to be imparted.

#### Tarrytown Garage

Tarrytown Automobile Garage & Machine Works. The Tarrytown Auto-

building, either at Lansing or Detroit, Mich., to manufacture some more leather tires.

The Matheson Company are using a large store at 1621 Broadway, New York, adjoining their present salesroom, owing to the large line of cars they have ready for delivery. They expect to be in their building directly opposite, about December 1.

Just think! Here is another clergyman going into the auto business. The Rev. Frederick A. De-Rossett, of Springfield, Ill., has gone into partnership with S. D. Scholes, Sr., S. D. Scholes, Jr., John H. Nehr and others to start a garage.

The Atlantic Motor Car Company are now located at Broadway and Fifty-

section as secretary, general manager and director of the Continental Caoutchouc Company. He established this company in America in July, 1903, and has been largely responsible for the growth of the Continental Tire in the market. He will now turn his whole attention to the Motor Car Equipment Co., National Sales Corp. and Royal Battery Co., of which he is president.

#### A. C. A. Applications for Membership

The following well-known people have been proposed for active membership in the Automobile Club of America: G. Louis Boissevain, banker, No. 30 Pine street, New York city; Paul D. Cravath, lawyer, New York city; A. J. Drexel-Biddle, Philadelphia, Pa.; Stuyvesant Fish, president Illinois Central R. R.; Francis L. Hine, vice-president First National Bank, New York; Henry F. Noyes, New York city; George D. Barron, Rye, N. Y.; L. F. Braine, vice-president Rail Joint Co.; Murray Guggenheim, New York city; W. P. Hardenbergh, Bernardsville, N. J.; Walter A. Schiffer, New York city; H. H. Shannon, automobiles, New York city; David Wilcox, president Delaware & Hudson R. R.

The names below have been proposed for associate membership: Thomas F. Chadwick, a manufacturer, of Newburgh, N. Y.; W. Caryl Ely, president American Association Street Railroads, Buffalo, N. Y.; George S. Gardiner, Laurel, Miss.; E. R. Thomas, president E. R. Thomas Motor Co., Buffalo, N. Y.; F. B. Williams, a capitalist, of Patterson, La.; Chas. F. Brooker, Ansonia, Conn.; R. L. Lippitt, Providence, R. I.



TARRYTOWN AUTOMOBILE GARAGE AND MACHINE WORKS, TARRYTOWN, N. Y.

bile Garage & Machine Works, owned by Nicholas Koenig & Sons, is at present the largest garage and auto repair shop in Tarrytown, N. Y.

It is equipped with an up-to-date repairing outfit and vulcanizing plant, and carries a large stock of Michelin and Diamond tires.

The proprietors are now desirous of obtaining the agency of a good make of cars. In order to handle their rapidly increasing business, Messrs. Koenig & Sons expect to move into a large new fireproof building on the Albany Post road about November 1.

The Salisbury Tire Co. are contemplating the erection of a new factory

seventh street, where it will handle the Stoddard Dayton car.

A joint meeting of all the clubs of the Pennsylvania Motor League was recently held at Chambersburg, Pa. Paul C. Wolff, secretary of the league, Dr. J. A. Hawkins, F. D. Saupp, W. L. Dixon and George E. Turner furnished cars for a large party of political delegates from Pittsburg. Congressman George H. Huff joined them at Greensburg with ten touring cars and a large party aboard. Another motorist on hand from Philadelphia was State Highway Commissioner Joseph W. Hunter.

Mr. Emil Grossman, by mutual and friendly agreement, has severed his con-

What a fine thing the motor car is to keep married folks from growing peevish. Great numbers of young wedded couples indulge in long auto trips, much to their enjoyment. Little New York-St. Louis trips such as the one made by Mr. J. B. Moberly, assistant secretary of the Mercantile Trust Co., and Mrs. Moberly, are quite popular. The run was made with Col. J. G. Butler in the latter's \$6,500 'Limousine Pierce Great Arrow and lasted five days, which was very good time. About 450 miles of the journey was over rough roads of the Allegheny mountains. The party en route passed through New Brunswick, Philadelphia, Harrisburg, Gettysburg, McConnellsville, Pittsburg and other places of interest.

#### R. M. Owen and Company Newly Incorporated

One of the biggest deals in the trade was consummated recently by the new firm of R. M. Owen & Company, for it

involves the exclusive control of the sales of both the 1907 Reo output and a large portion of next season's product of the Premier car.

This is an entirely new way of selling cars, which, it is expected, will produce a much more satisfactory condition in trade. The company calls itself "a counsellor in motor cars" that stands between the manufacturer on one side and the agent and the public on the other. In their own words, "The car that makes good is the kind of a car that looks good to R. M. Owen & Co., and the one kind they have any interest in recommending to the public."

A fact that was largely instrumental in effecting this arrangement, was that the Reo Motor Car Co. in response to enormous demand for its runabouts and double cylinder light touring cars had decided to devote its entire energies to the production of these two models during 1907. This was made necessary by their guarantee to R. M. Owen & Co. of specified deliveries. However, as there is a demand for 4-cylinder touring cars, the latter corporation made a deal with the Premier Motor Manufacturing Co., of Indianapolis, Ind. The list price of the 4-cylinder Premier car will be \$2,250. The reorganized concern will occupy a large five-story building at 36-40 West Sixtieth street, New York city.

#### Pacific Motor Company Garage

SEATTLE, Wash.—While complete in every department, the garage of the Pacific Motor Company, this city, is one of the most novel in the country. The garage was erected in a section of the city that was regarded, and the present conditions in a way illustrates, the extent of this work. The owner of the land did not wish to lose the tenants of three frame buildings, and decided to leave these structures where they were, and prop them up while the earth underneath was removed and the brick building erected. The result is rather odd, the effect of frame buildings resting on the roof of a brick building, arrests attention. The garage was specially reinforced to carry this extra weight.

A. G. Perkins is the proprietor of the Pacific Motor Company, and is the agent here for the Haynes touring car and the Reliance Auto truck. The salesrooms, which face on Second avenue, are complete in every way, as is the entire establishment. Cars enter here, and if they need attention are removed to the basement by a huge elevator. The storage room is also in the basement. Cars can leave the basement by means of an alleyway, which leads to Blanchard street, looking down which the picture was taken.

#### Lock Up Your Tires

The Aerocar Company, at Detroit, has sent out notices to its agents requesting them to notify owners of the Aerocars that tire thieves are at work. They are advised to procure a lock and chain and secure the emergency tire to the running board of the car so that it cannot be removed without the owner's knowledge.

The Aerocar Company has made a special feature of fitting out their cars with a complete touring equipment during the past season. With this equipment is a complete extra tire, inner tube and tire casing, strapped in the tire irons at the right side of the car. Several of these extra tires have disappeared and not been seen since. In some instances the cars had been left in garages, in others at the side of the street.

Also a stockroom of accessories, carrying a large line of tires, lamps and other accessories. In the rear is the large room for cars in use, with time depot at the Fifty-sixth street entrance. A rigid record of every car going in or out is kept. A special Holmes Patrol officer is continuously on duty at this entrance. The gasoline storage equipment is the Snell Hydraulic System, and cars are filled in the street only, from a pipe leading to the 75 gallon tank underground.

All electric machines are kept in the basement where the storage batteries are charged and repaired. Power is supplied by the Edison Company.

On the second story is another salesroom and storage floor. The walls of this floor are lined all around with lock-



SMITH & MABLEY'S MODEL GARAGE

Motorists who carry similar tires upon their cars would do well to take notice. Before the horse is stolen—get a lock and chain.

#### A Model Garage

The garage of Messrs. Smith & Mabley, Fifty-sixth street and Broadway, is one of New York's finest auto homes. This three-story fireproof building of steel and concrete construction with its large amount of floor space, is an ideal in every detail. Its architecture, though quite simple, is remarkably striking, and the facilities within for handling motor cars would be hard to surpass. Each floor will conveniently hold seventy-five cars in the storage and salesroom sections. These floors are connected by two freight and one passenger elevator. One of the lifts has a turntable attached and is large enough to carry a brewery truck.

On the ground floor of the Broadway side of the building is a showroom and

ers for chauffeurs. On the Broadway side is a lounging and billiard parlor, barber shop and lunch room for the convenience of chauffeurs and customers.

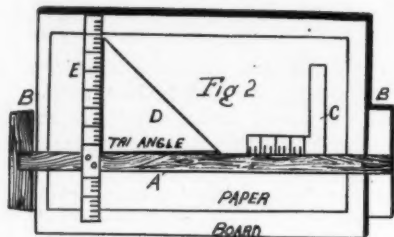
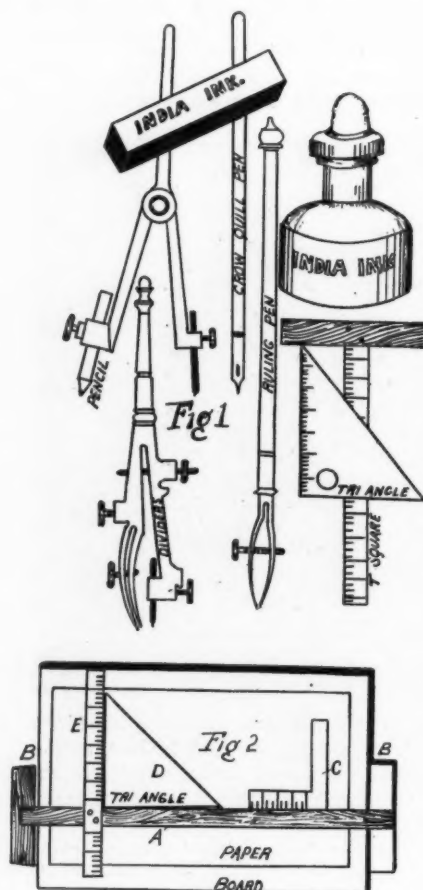
Another large "dead" storage room is on the third story, used exclusively for cars not in use. On this floor is one of the largest repair shops, fitted up with lathes and other modern repair equipment. Adjoining this is a stockroom of automobile parts systematically arranged in drawers around the walls and large cabinets in the center of the room, having the appearance of a hardware store. A paint shop is also located on this floor, while outside upon the roof is a blacksmith shop.

The building throughout is equipped with fire alarm signal apparatus, and sand and water buckets are on every floor in abundance. The whole structure is an admirable example of the rapid strides of the motor industry in America.



### Sketching Board of the Automobile Shop

The repair man will find that his work will be much easier all around if he possesses the proper equipment of drawing devices. There are occasions to sketch some part of the mechanism of the automobile many times during the course of a week of busy repairs. Too often the sketch is roughly executed on a bit of paper with pencil, using the work bench as the sketching board. Often pains are not taken in the making of the drawing to get the dimensions accurate. Then again, while the proportions may be correctly estimated, the figures and marks designating the same



may be in keeping with the poorly constructed diagram, and almost illegible to everyone except the man who made the same. Manufacturers of machines are constantly receiving drawings of parts for duplication. Not infrequently the drawings are difficult to interpret and the wrong part is shipped and delay and expense are caused. In traveling around among shops and manufacturing establishments, I find that much of the trouble arising from poorly drawn sketches of parts of automobiles could be avoided if better drawing apparatus was employed. Many of the manufacturers of automobiles catalogue and number the parts of their machines. Others do not.

There are frequent occasions on which it becomes necessary to make a sketching of the parts needed as is well known to men who repair machines. I would suggest, therefore, that a sketching board and instruments be used.

To purchase a complete set of drawing tools would mean too much of an outlay. The collection of tools and apparatus can be cut down to the number illustrated in Fig. 1. Here we may see the useful cake of india ink and the bottle of ready mixed ink of the same kind. India ink should be used in making the sketches. Manufacturers have shown me instances of partly erased drawings which they have tried to decipher with magnifying glasses in order to make out the pencil figures. Others have contended with the faded lines of common writing fluids. With the intensely black india ink there is no danger of fading and the figures and fine lines will stand out plainly. Then we exhibit the selection of pens and dividers one ought to have. All the pieces in the figure can be purchased for \$2.00. The fine crow quill pen is only 5 cents. The dividers may be had for \$1.00. A ruling pen is necessary. Only a few days ago I noticed a man who ought to have known better, ruling some lines in a drawing of an automobile gear with a common writing pen and ruler. Of course, the pen dragged the black fluid along the edge of the rule and left a squabbly line along the white paper, spoiling the sketch. With the regulation ruling pen, price 50 cents, this cannot occur. You need a T-square and a triangle marked off like the one in the cut. When you try to make long, straight lines with your pocket folding foot rule, as some men do, you always get a wabby line. With the T-square head firmly adjusted to the side of the drawing board, and the bar extended along the paper, you can, with the ruling pen, be sure of getting a straight line.

A sketching board should be used. The rough bench top will not answer. A man who can fix automobiles will have no trouble making a sketching board of the character exhibited in Fig. 2. The sketching board can be made of pieces of common pine boards, about 10 inches wide, three of them cleated or otherwise matched with the edges as tight as possible. A board about 40 inches long is convenient for ordinary sketching work. On the upper surface of this the sketching paper can be thumb-tacked as shown and then with the various drawing instruments the designs may be executed. The adjusting and sustaining of the bar (a) of the T-square is accomplished with the end pieces b, b. The latter serve to hold the bar straight and steady. With the line of the bar as the base, the cross lines and angles may be described very read-

ily with the rule d, the triangle d, or the steel square c. These drawing instruments are not at all costly and they save considerable trouble. In Fig. 3 is a drawing of a sketching arrangement constructed by the writer for use in getting the accurate lines and tapers of an elbow, lever or crank. The bow of the ruler is set so as to form the lower edge of a triangle and the latter is adjusted to the ruler bar by means of setting screws f, f. The shape of the lever is described on the plain surface or on the checked or squared surface, as shown. The employment of squared de-

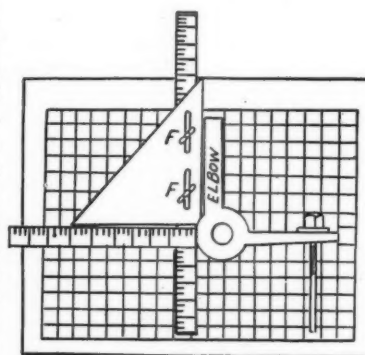


Fig 3

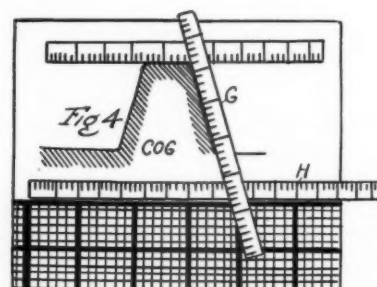


Fig 4

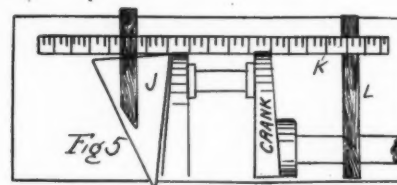


Fig 5

sign paper in making patterns of parts of automobiles is a good plan.

The dealers in artists' materials keep a stock on hand of variously ruled paper. The 8 to the inch kind is convenient, although the 12 squares to the inch may be better for some work. In Fig. 4 is shown a good way of using the sketching board and rulers g and h in the shaping of a cog for an automobile gear. An outline of the squared paper is shown in the same cut. In the event that it is necessary to describe the crank of a shaft on paper, the plan shown in Fig. 5 may be adopted. A flat rule properly marked in inches and fractions of inches, the base of which is k, is provided with the additional pieces l and j,



the latter supporting a pivoted triangle. The triangle may be adjusted at the required position by simply tilting it to the right or the left.

It is not difficult at all to create various forms of angles and rules to assist in the preparing of sketches of parts of automobiles. In some establishments the camel's hair brush is used with ink or other coloring and the body of the sketch of the part is created as one would paint solid letters. Then again, some men prepare the design with the mere hair-line outline. The latter makes a neat job. The proper dimensions can be designated on the pattern and then if the pattern has to be made to order, the manufacturers have a guide to go by. Guess work in the automobile repair shop belongs to the past. There is no need of going to the cost and trouble of sending the broken part by express or mail to the manufacturers for duplication.

The correctly defined sketches will overcome all this. And for a very small sum of money the artisan may put in his outfit of devices for accomplishing this end.

"OBSERVER."

#### Pope-Hartford Model for 1907

The enviable position which the Pope-Hartford Company's motor car has gained has not come to them accidentally. They have been among the most enterprising automobile manufacturers and have been constantly conducting experiments of the costliest kind with a view to perfect their work. Their 1907 Model shows the old features which have marked their motors for several years, with some decided improvements added. In the cooling of cylinders the water cooling feature is retained. The four cylinders are cast in pairs with integral heads. The valves are mechanically operated and are interchangeable. The crank shaft is of nickel steel with broad and massive bearings. The radiator is of the planetic style and the crank case has hand holes, rendering 't easy to reach the bearings without removing the casing. A new design of carburetor is in operation, which is both reliable and flexible. Ignition may be made either by magnetos or by dry storage batteries with jump spark attachments.

The important feature of lubrication is a positive feed contrivance located under the hood and driven by the water pump driving shaft. It requires no attention whatever except to be supplied with oil. The axles are furnished with ball bearings both for smoothness of running and taking up the longitudinal thrusts of the bevel gear and axle shafts.

The controlling levers for ignition and throttle are located on the top of the steering wheel and are arranged on

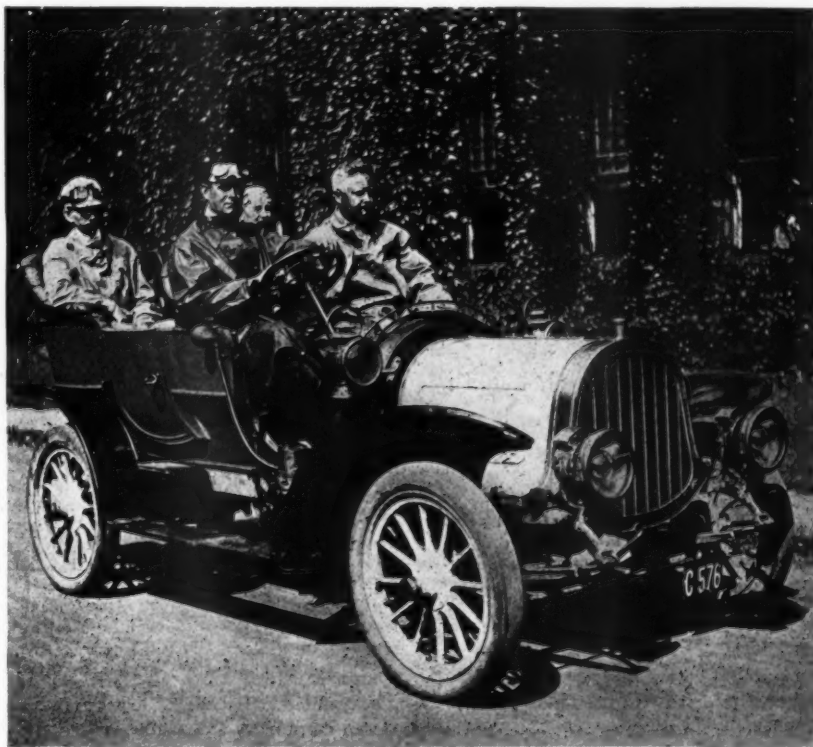
a sector, so as not to revolve with the steering wheel, and are very efficient.

The brakes are extremely powerful and the axles are specially designed forgings, combining lightness and strength in a very marked degree, the front axle being of the I-beam type, and the rear axle of solid steel with squared ends, and running in a tubular sleeve.

In regard to the body it must be seen to be appreciated, the tonneau being of the most elegant design and much more roomy than formerly, with wide doors making it especially easy of access.

The following are some of the principal dimensions: Wheel base, 102 ins.; tread, 56 ins.; wheels, 32x4 ins.; gasoline capacity, 15 gals.; water capacity, 5 gals.

has secured his Traction Treads but a few days before. He hailed me derisively and passed on. I was sorry that I was unable to tell him that the tire I was working on was someone else's make, but I could not. I finally got under way, and phew! a tire blew out. I got down to repair that and a customer who had received his tires a few days before passed me waving his hand. I felt like thirty cents. I again started with a prayer, and will you believe it, I stopped just five times straight for tire troubles, and every time was passed by some one to whom I had sold my make of tires. All believed that I had come to grief with tires I had myself warranted not to give trouble, and on Monday I heard from every incident. Now, wouldn't that jar you? The man who wants to loan me a car hereafter has simply got to



POPE-HARTFORD MODEL FOR 1907

#### Tire Troubles

Mr. Prince sells the Traction Tread tires, and he claims that these tires will not puncture running over jagged glass and over tacks. Mr. Prince preaches Traction Tread tires, but does not always practice what he preaches, for he is sometimes tempted to drive a car fitted with other tires, those which do puncture and blow out. Let Mr. Prince tell of one bitter experience: "I had started for Long Island," said he, "and I was driving a car fitted with other tires. I had not gone far when my tire punctured. I stopped, and while repairing it was passed by a customer who

have on Traction Treads or there is nothing doing. I'm not going to receive just that kind of a jolt again."

C. E. Boston, of the Evening Reporter, Woonsocket, R. I., and H. S. Bicknell have just completed a 700 mile run in a Maxwell tourabout. Mr. Boston says that the little car took everything in the way of grades and bad roads with ease. The supplies of oil and gasoline were the only things which needed attention. One puncture was the only trouble on the 700 mile run. Mr. Boston received his car in June and says he has spent only \$1.50 for repairs.

# EVENTS OF THE MONTH

## Worcester, Mass., Gymkhana

The second annual Worcester Gymkhana and Auto Carnival was held on September 29, after being postponed a week on account of rain. After a parade through the town, the procession chugged to the Worcester Oval where the fancy motoring took place. Of the contestants, two young women distinguished themselves. Miss Eva Brunell, of Worcester, captured four prizes, while Miss C. E. Gardner won three.

The winners of the various events were the following:

First Event—Driving at Rings: First, Miss C. E. Gardner; second, Miss Eva

Hawkins, 16 feet 10 inches; third, Miss A. C. Murdock, 17 feet 3 inches.

Ninth Event—Puncture contest. Omitted.

Tenth Event—Twelve mile an hour race: First, A. K. Miller, 1:15; second, Miss Eva Brunell, 1:23; third, H. H. Hawkins, 1:24½.

## Another Strike

The St. Louis Motor Car Company have been having their share of troubles with union labor. The early part of this month their shops were picketed by the union who stopped and threatened everyone going and coming.

George F. Johnson, arrived at New York at four P. M. the Thursday following, with perfect scores. On this account, the cup will remain in possession of the club and the names of the five with perfect scores will be engraved upon it. Next year another contest for the trophy will take place.

## Boston Dealers' Outing

The annual outing of the Boston Automobile Dealers' Association took place at the Tudor Farm Motor Club, Sharon, last month. This organization of dealers, which conducts the Boston auto shows, started from the Bay State Automobile



MISS EVA BRUNELL

A young girl of fifteen years, who won four prizes and was second in the race for the Women's Cup at the Worcester Gymkhana



GROUP OF OFFICIALS AT THE WORCESTER AUTO GYMKHANA

Former President Lee of the A. A. A., President J. P. Coughlin, Worcester A. A., J. Fortesque, Bay State A. A., and Harry W. Smith, Announcer, among them

Brunell; third, Mme. Ella M. Des Roches.

Second Event—Relay race for touring cars only: First, H. H. Hawkins; second, A. K. Miller; third, George Stowe.

Third Event—Turning: First, H. H. Hawkins; second, George Stowe; third, A. K. Miller.

Fourth Event—Obstacle race: First, George Stowe; second, H. H. Hawkins; third, Miss Eva Brunell.

Fifth Event—Balancing: First, Miss Eva Brunell; second, Miss C. E. Gardner; third, George Stowe.

Sixth Event—Ball and tub race: First, A. K. Miller; second, H. H. Hawkins; third, Mrs. Charles Crompton.

Seventh Event—Forward and back: First, H. H. Hawkins; second, Miss A. C. Murdock; third, George Stowe.

Eighth Event—Stopping: First, Miss C. E. Gardner, 16 feet; second, H. H.

The trouble grew out of a difference between employers and employees, the former not wishing to pay more than straight time wages for overtime. First, the union mechanics struck, and then the blacksmith shop struck in sympathy. The company standing pat, imported competent machinists from other cities and are now not far behind on their 1907 orders. Yes, the motor car industry, like all the rest, is unfortunately heir to the strike nuisance.

## Contest for the Oquaga Cup

The Binghamton (N. Y.) Automobile Club, some days ago, held an endurance run to New York city, and a dozen members attempted to win the Oquaga trophy. The start was made Tuesday morning, October 2, and five of the contestants, F. E. Barnes, W. G. Faatz, Wm. T. Cornell, R. M. Russell and

Association's club house early in the afternoon. About thirty members of the dealers' society and their friends made up the party. At dinner in the evening, President J. H. MacAlman called upon the various guests for informal remarks on motoring in general. Among those who attended the outing were: John L. Poole, of the Aerocar Company; Harry Fosdick and Alfred W. Robbins, of the Harry Fosdick Company; J. H. MacAlman, of the Columbia; C. I. Campbell, manager of the Boston show; E. S. Breed, of the Buffum agency; B. F. Blaney, of the Corbin; F. A. Hinchcliffe, of the Winton branch; E. C. Kennedy, of the Welch; E. A. Gilmour, of the Rambler; George H. Lowe, Alfred Measure, P. A. Williams, Jr., of the Aerocar; John Lorange, Charles H. Coakley, Charles Lohn, of Kokomo, Ind.; J. Fortescue, secretary of the Bay



State Association; A. E. Mills, of the Welch; J. S. Dane, George Carpenter, George A. Campbell, V. A. Charles, W. E. Wilson, F. H. Shaw, O. W. Penn, V. J. Jacobs, George H. Kimball, E. H. Kimball, Charles Waugh, Joseph Bennett, W. P. Cronin, John Sullivan, D. L. Greene, Howard G. Reynolds, I. M. Taylor, T. D. Graham and Alfred W. Robbins.

#### Opening of A. and M. Club Rooms at Newark, N. J.

On October 13, the Automobile and Motor Club, of Newark, N. J., had a formal opening of their new club house, and in connection therewith, had a parade of about one hundred automobiles which made a circuit of about ten miles about Newark, Roseville and East Orange. Many of the most prominent automobilists of New Jersey took part in the demonstration.

After the parade was over the people were treated to luncheon in the club house. Among those present were: Joseph H. Wood, president of the club; Angus Sinclair, vice-president; H. A. Bonnell, secretary; W. I. Fisk, chairman of the house committee, and J. W. Mason, both of whom took a most active part in promoting the affair.

Winthrop E. Scarritt, past president of the Automobile Club of America, was a guest, and made an address of dedication. Dr. James R. English and Frederick R. Pratt, both past presidents of the club, took an active part. Among others participating were: S. W. Oughel-tree, chairman of the City Council of East Orange.

Edwin L. Parkhurst, of East Orange; A. P. Heyer, of Montclair; J. B. Hanna, of Arlington; A. B. Loehner, of Irvington; C. B. Holmes, of Rahway; James Macdonald, of Elizabeth; Dr. L. A. Opdyke, of Jersey City; Edgar M. Corbett, of Paterson; Charles H. Smith, of Jersey City; J. V. Anthony, of Jersey City.

S. F. Wilson, George H. Simonds, W. P. O'Rourke, F. Krementz, Hardy Bush, S. B. March, T. C. Mertz, Charles T. B. Rowe, G. Breeze, of Newark; William Cardwell, Mayor of East Orange; Ernest Boerger, of Irvington; E. M. Huggins, of New York; C. S. Swead, of New York; J. Drumplemann, of Rahway; C. C. Clawson, of Flagtown; H. R. Benedict, of Roselle; Victor E. Downer, of Lyndhurst; H. I. Underhill, of South Orange; A. Fleming, of East Orange; Charles H. Denison, of East Orange; Chester Henry, of Summit; J. F. Haas, of Summit; Charles R. Rively, of Summit; Louis A. Voorhees, of New Brunswick; J. H. Edwards, of Jersey City; A. W. Peters, of New Brunswick; C. Willey, of Kearny.

F. R. Tymel, W. Lockwood Kimball, L. Wilson Frisbee, Henry T. Mayer, J. H. Dawson, Louis T. Wiss, John F.

Bonykamper, Maurice Ashen, M. Demars, A. J. Maier, Thomas P. Gould, E. A. Kirch, Andrew O. Kiefer, Ernest A. Dreher, Evan H. Eastwood, of Newark.

W. W. Lyons, W. Bittle, W. H. Troulridge, Theodore A. Kastner, Henry Fischer, I. R. Denman, Adolph Eisele, I. T. Straus, F. A. Schaeffer, L. L. Stachle, J. C. Coleman, Charles L. Cooper, Charles A. Eck, C. E. Fisher, George Paddock, Dr. J. S. Stage, L. R. Hunt, Dr. W. Seidler, J. Everitt, A. Honsten, Samuel E. Robertson, of Newark.

After the parade it was announced that the following new members had been admitted to the club: A. Kirkpatrick, W. B. Kinney, Ralph B. Schmidt, B. W. Straus, W. A. Baker and F. A. Seitz, of Newark, and C. A. Westervelt, of East Orange.

A great many ladies graced the parade and took part in the entertainment at the club rooms.

may be submitted to them before referring to the full board of directors.

The committee appointed consists of William K. Vanderbilt, Jefferson De Mont Thompson and A. R. Pardington.

#### Packard Plucky Paces

One of the fastest and wildest rides ever pulled off along the New York-Buffalo route was made last month by W. B. Hurlburt, manager of the New York branch of the Packard Motor Car Company. Leaving New York at 5 A. M., Mr. Hurlburt, in a Packard "Thirty" runabout, and accompanied by a mechanic, set out to make good his widespread reputation for spectacular driving. Up the hilly east side road along the Hudson, westward through the Mohawk Valley, with its torn-up roads to Utica; thence to Syracuse. Rochester was reached a few minutes before 10



CLUB HOUSE OF NEW JERSEY AUTOMOBILE AND MOTOR CLUB

#### To Secure a Private Course

Immediately following the race, the board of directors of the American Automobile Association unanimously voted to make arrangements for obtaining a private course for a 1907 cup race. The resolution adopted was the following:

Whereas, The board of directors of the American Automobile Association has by resolution expressed itself in favor of automobile races on private right of way, it is hereby

Resolved, That a committee of three members of the American Automobile Association be appointed to carefully consider the various propositions having as an object the conducting of automobile races on especially reserved rights of way; and be it further

Resolved, That this committee, in view of the possibility of conducting the elimination races for 1907, be instructed to carefully consider such propositions as

o'clock in the evening—401 miles in 17 hours, including stops for meals and gasoline. The net running time was 14 hours 45 minutes. The car used by Mr. Hurlburt was the same that has been driven back and forth between Detroit and New York several times by Manager Joy and Chief Engineer Huff, of the Packard Company.

#### The Long Distance Siren

The Sterk Manufacturing Company are responsible for a new warning device placed on the market some days ago. It is quite different from other siren whistles used on cars and, as its name implies, it is constructed to carry sound for a long distance without unpleasant noise. It will give a soft or loud volume of sound, according to the speed with which the crank is pulled.



### George M. Cohan, Who Likes to Mote

That the auto is a favorite animal with theatrical folk is well known, and the irrepressible Mr. George M. Cohan is one of Stageland's sure-nuff motor tamers. Just how to define Mr. Cohan is quite a problem. He is, among other things, a playwright, composer, actor, author, perpetrator of popular songs, and motorist.

He only took up automobiling during the past spring, when he bought a Stanhope runabout for his wife. He then bought a 24-H. P. car, and finding that he could not get speed enough out of that to satisfy his strenuous way of living, purchased a 60-H. P. Darracq machine, and finds that it can carry him about rapidly enough to keep up with his ideas of the Hustling Life.

Young "Georgie" has shipped all three of his cars to Chicago, where he

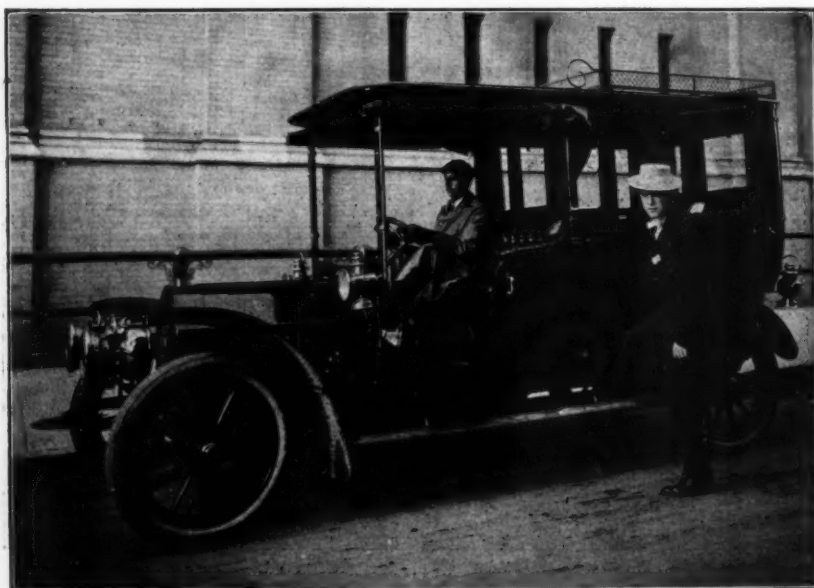
### Sensational Race at Kansas City

What may be easily classed as one of the most sensational races of the season was run at Kansas City recently. It was the five-mile match race which was won by Albert C. Webb, with his well-known Premier Vanderbilt cup car against Joe Wittman, who drove a last season's winning Vanderbilt Cup racer. Although the track was very slow and dangerous, both cars and drivers performed creditably under the severe test. As an evidence of the great interest shown in the races, thousands of people came from far and near to witness the battle of the giants in spite of the heavy rains and muddy roads.

That Webb is a natural born automobilist is shown in the fact that he would rather race in a fast car than sit down to the best dinner. He says that while he fully realizes all of the dangers of racing he never thinks of them when he

### The Glidden Tour

In view of the large number of complaints that were made in regard to the conduct of the Glidden tour last summer, the committee are already at work making arrangements that will preclude the possibility of a recurrence of the many evils complained of. The committee frankly admit that mistakes undoubtedly were made, but the large number of entries, 83 cars having started, made it impossible to furnish satisfactory hotel and garage accommodations, particularly at places that were already crowded with summer tourists. The senseless formalities of the customs authorities were also an unlooked for source of annoyance with which the committee had nothing to do. In justice to the committee it may be said in a word that they were not in any way responsible for the bulk of the evils complained of, and it is generally admitted that the tour was the greatest event of its kind which has yet been held in America.



GEO. M. COHAN ENTERING HIS BIG DARRACQ TOURING CAR

is now playing a sixteen weeks' engagement. Unlike many of his profession, he does not care to drive his motors himself, preferring to place himself in the hands of an expert chauffeur. He finds that it is just about his style to entertain a party of friends on short trips, and may frequently be seen speeding along the automobile alleys with as many as seven guests aboard.

Prior to taking up the auto fad, Mr. Cohan had a very fine stable of six horses, with as many different carriages. He still retains this stable, but is rarely seen behind horse flesh when the more rapid locomotion of his buzz wagon is obtainable. Yes, Mr. Cohan, we shall certainly "give your regards to Broadway" while you are out under a more westerly corner of the "Grand Old Flag."

takes his seat in the racer. He has gone through four fences and has seen nine men lose their lives in the same manner, besides having seen a score injured.

### Pneus Michelin

The above is the name of a house organ for the Michelin Products Selling Company, the first number of which has just appeared. It is a bright, racy publication with a leaning to tire matters, which are by no means tiresome. It will be sent free for a year to anyone who will apply to the Michelin Products Selling Company, 31 West Thirty-first street, New York.

The horn of a rhinoceros is not part of the bone of the head, but merely grows on the skin.

The fake politicians who inflicted the Freylinghuysen law upon New Jersey are said to be contemplating new injustices at next session of the Legislature. They want to have all motor cars geared down so that a speed exceeding twenty miles an hour cannot be run. New Jersey has suffered considerable loss of business from the working of the existing law. The number of voters interested in automobiles are increasing and a little more annoyance will bring them to the point of combining to vote their enemies in the Legislature to the retirement which many of them so richly deserve.

### Traps

The attention of members of the Automobile Club of America is drawn to the fact that the speed regulations are being rigidly enforced at the following points:

At Elmsford, Westchester county, N. Y., on the Saw Mill River Road (State Road), 8½ miles north of Yonkers.

Near Poughkeepsie, on the Post Road, near the Poughkeepsie Rural Cemetery, about five (5) miles south of Poughkeepsie.

The Autocoil Co., Jersey City, N. J., have again secured the ignition contract from the George N. Pierce Co. for their 1907 cars. The first order was for 900 four-cylinder coils and 100 six-cylinder coils.

Among the newcomers in the field is the Prentiss Motor Car & Supply Co., located in Boston, Mass. Their headquarters are in the Colonial Building.

## Of Personal Interest

F. Hemsler, proprietor of the Brighton Hotel, Atlantic City, has taken delivery of a Simplex limousine car.

Mr. and Mrs. J. S. Hathaway, of Boston, have been touring New Yorkwards and back. While at the Metropolis they were "among those" at the cup race.

Mr. George Brooks, who has been with the Keystone Motor Car Company for some time, will leave that concern about October 10 to go with the Philadelphia branch of the Autocar Company.

The Aerocar Company announces that it has secured the services of R. J. Laciari, who was formerly with the Darracq Motor Car Company. He has joined the Aerocar's sales force.

More and more auto parties all the time. A. R. Shattuck, ex-president of the A. A. A., with Mrs. Shattuck and her mother, Mrs. W. L. Strong, have been touring through Connecticut and New York.

Mr. E. D. Winans, of the Michelin Products Selling Company, Inc., has resigned his position as general manager. Mr. Winans is in ill health and will go to California for a much needed rest.

M. Paul Meyan, who writes for French papers on auto subjects, is growing peevish about motor cars made in the U. S. A. He says he sees a serious menace to the French trade in the gigantic strides toward perfection in the construction of automobiles in America.

Mr. Charles Clifton, who is president of the A. L. A. M., also treasurer of the George N. Pierce Company, is off upon a trip to Europe. He will visit the various places of interest abroad and have a good time, not returning until after the Paris Show in December.

If a few more police officials buy motor cars, police forces in general will begin to grow a little more sympathetic towards motorists. Now, Superintendent Wm. H. Pierce, of the Boston Police Department, has purchased a Columbia car and will never try to exceed speed limits—no, never.

Archie McLachan has been off on a trip to Canada with a party of five in a Royal Tourist. They returned four days after leaving the Cleveland factory, making the whole trip in very good time. At one time the car went forty-two miles over very hilly country in one hour and five minutes.

Mr. Alfred G. Vanderbilt lost one of his favorite cars by fire in Newport a few weeks ago. The machine was a large 60 H. P. foreign touring car and he valued it at \$18,000. There were several other cars in the garage at the time of the fire, but they were gotten out before being damaged.

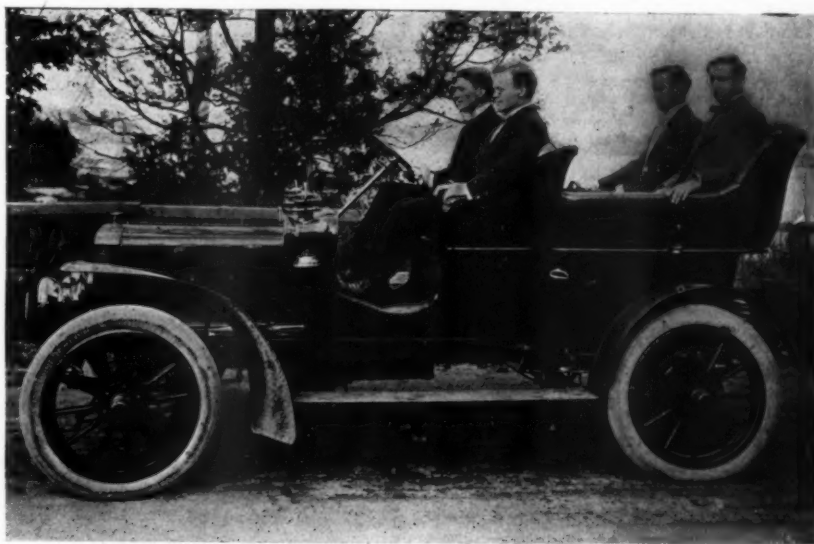
Thomas Midgley, president of the Midgley Manufacturing Company, Columbus, Ohio, has resigned in order to devote his whole time to the interests of the Hartford Rubber Works Co. Since March, 1905, Mr. Midgley has been connected with the Hartford Company, and was recently elected its president.

Mr. E. M. Roberts, M.E., the celebrated gas engine expert, has been for

Mr. Edward W. Elverson, treasurer of the Michelin Products Selling Company, Inc., of 31-33 West Thirty-first street, New York city, has taken control of the affairs of that company as general manager, succeeding Mr. E. D. Winans, resigned.

Mrs. Genevieve Chandler Phipps, of Pittsburg, is one of the richest widows in the country, but, like Dickens' charity school boy, she wants more. She has turned her attention to mine buying, and is ambitious to figure as the richest woman in the world.

Mr. R. R. Gibbs, head of the telegraph office of the Treasury Department, Washington, has been off on a trip



NON-STOP RUN FROM NEW YORK TO BOSTON AND RETURN IN A 30 H. P. DORRIS CAR. E. B. JACKSON AT THE WHEEL

months working on the designs of a new two-cycle engine for automobiles and marine launches. We have been promised the privilege of illustrating the engine as soon as the foreign patents are obtained.

Hubert Le Blon, who drove the Thomas car in the cup race, is the designer of a new power boat, that is a new departure in construction. It is well known that Le Blon is an electrical engineer of high standing in his profession. He has been visiting the New York Edison Company's Waterside Station and other large power houses in order to gather material for articles that he has contracted to write for technical magazines abroad.

through Maine in his Reo car. The car was purchased for use in Mr. Gibb's department and he merely toured it to Maine to exercise it.

Mr. Dave Hennen Morris, who has been president of the Automobile Club of America for the past two years, declined to accept a renomination, but it is said that various members of the organization will try to prevail upon him to remain as their head. Mr. Morris has always been popular and has been an energetic executive. The annual meeting of the club will be held November 19, when new officers will be elected.

Motor cars are still popular with physicians. Dr. C. R. Burlew, of Yonkers, N. Y., recently purchased a Rambler car, and Dr. O. W. Burlyle, of Earlville, N. Y., did the same. Dr. W. B. Stanton, of Philadelphia, has lately become the owner of a Maxwell runabout.

Mr. Alan R. Hawley, a member of the Automobile Club of America, has offered a silver cup, "to be known as the 'Alan R. Hawley Aero-Auto Cup,'" to be awarded to the driver of the automobile who first reaches a descending balloon after it has landed, in any balloon event conducted by the Aero Club of America.

According to Mr. Tom Dunn, who concocts the publicity for Banker Bros., Pittsburg, a grand duck hunting trip was recently made by Arthur Banker and "Bob" McCurdy out to Conneaut Lake. While there, they shot so many ducks that the lake was filled up with them and now there isn't any more lake! It is a pleasant fact to bear in mind, that Mr. Dunn is always cheerful about these matters.

Len G. Shaw has taken a responsible position with the publicity department of the Wayne Automobile Co., of Detroit. Mr. Shaw has been with the Detroit Free Press for the past five years. He has been in newspaper work for twenty years, passing through all branches of the profession. This familiarity with newspaper work and his well known ability to prepare interesting copy will make him a valuable addition to the Wayne force.

Miss Fritzi Scheff, the prima donna, made a flying trip from New York to Atlantic City and return, a short time ago. Miss Scheff left New York at midnight after a performance and made fast time to the well-known resort, stopping there at the Royal Palace for breakfast, and arriving in New York again before noon. She was unmolested by stop-watch constables and other speed-limit agents, who, according to report, were taking their beauty sleep.

In the annual election of the Washington Automobile Dealers' Association all the officers of last term were re-elected, with the exception of R. W. Cook, treasurer, and C. W. Frank, secretary. The former having gone to Chicago and the latter to San Francisco, J. M. Stoddard and W. C. Ling were respectively elected to their places. It was unanimously decided to hold a show in 1907, date and place not yet settled.

Mr. George C. John, sales manager of the St. Louis Car Co., has decided that South Bend, Ind., is no place for philanthropists. Some weeks ago, he was trying out a 1907 American Mors car over

the "37 varieties" of roads between St. Louis and New York. At South Bend, Mr. John was arrested and fined \$25 for giving away a cigarette. It cost him this little fee to learn that it is just as wicked to give away a complimentary cigarette in that State, as it is to sell one.

Mr. F. E. Moscovics has resigned his position as vice-president of the Frayer-Miller Motor Car Company. This step was necessitated by his present duties in connection with the firm of Brandenburg & Company, which business has grown to such magnitude that Mr. Moscovics could not even devote the little time necessary to attend to his duties as vice-president of the Frayer-Miller Motor Car Company. Mr. Moscovics hereafter will devote his undivided attention to the different parts marketed by Brandenburg & Company, and will spend most of his time in the West, in the interests of that concern.

Mr. J. D. Maxwell, of the Maxwell-Briscoe Company, speaking of the twelve cylinder racer that was not allowed to start in the recent race because it was over weight, said:

"I am much disappointed that the car could not be brought under weight, but after I have had an opportunity to try it out and test it more thoroughly I will then partially rebuild it, and am confident that we can reduce the weight to the proper limit.

"It is probable that we will try for the mile track record in the near future. The big car is being driven daily about Tarrytown, and I am entirely satisfied with it."

Mr. Edwin Leaycraft, of Bloomfield, N. J., is an unusually sensible man with the capacity for doing a kindness in a delicate manner. He had the happiness last month to celebrate the twentieth anniversary of his marriage, and he profited by the occasion to present his twenty years' bride with an automobile and a diamond ring. People who helped to celebrate and who look forward to pleasant outings in the automobile, were: Mr. and Mrs. Wallace Cadmus, Mr. and Mrs. Albert Meeker, Mrs. Willard Bevans, Mrs. George Batzle and daughter, Mr. and Mrs. George Usher, Mrs. William Pierson and daughter, Mrs. Elizabeth Link, Grace and Lester Pierson, all of Bloomfield; Miss Emma Shackman, of Glen Ridge; Mrs. William Baker and daughter, and Miss Edna Link, of Newark.

C. S. Henshaw, one of the pioneer automobile dealers of Boston, Mass., has been appointed New England agent of the Haynes car.

Colgate Hoyt, vice-president of the A. A. A., while abroad recently drove

his 40 H. P. Westinghouse car over 7,000 miles.

John F. McLain has been appointed foreign salesman for the Pope Manufacturing Company and will shortly sail for Europe. Mr. McLain has been making a tour of the different Pope factories.

Percy Owen, the popular representative in New York of the Aerocar Company, was married on October 9 to Miss Marian Barr Nichols, at Haverhill, Mass. Percy was a good catch, and many caps have been set to draw his attention, but all these little blandishments are finished now.

H. F. Donaldson, who has been on the editorial staff of the Automobile for several years, has bought The Commercial Vehicle, a monthly, hitherto published by the Class Journal Company. Mr. Donaldson is a mechanical engineer of mature experience on motor vehicle work. Harry W. Perry, another well-known automobile writer, will join the editorial staff of The Commercial Vehicle.

Dr. Weilschott had a narrow escape from death while driving a Fiat car in the Vanderbilt race, having run down a steep bank with the automobile. After the accident happened the explanation was made that the mishap was due to breakage of the steering gear. More recent information proves that the accident was due to the villain boy, who was too much in evidence at that contest. Dr. Weilschott says that while he was running at great speed a boy ran in front of the car, and, in an effort to avoid striking him Dr. Weilschott threw his wheel sharply to the left. Several other people were thus placed directly in front of the machine, and in an effort to avoid hitting them he threw the car in the opposite direction and over the bank.

#### Applicants for A. M. C. M. A. Membership

The American Motor Car Manufacturers' Association have received a barrel of applications during the past two months. Among them are: Reo Motor Car Company, American Machine Manufacturing Company, American Motor Car Company, B. L. M. Motor Car and Equipment Company, Dragon Automobile Company, Evansville Automobile Company, Watson Machine Company, Mora Motor Car Company, Pierce Engine Company, Rapid Motor Vehicle Company, St. Louis Car Company, Motorcar Company, Dolson Automobile Company and the de Luxe Automobile Company. All of the above expect to exhibit at the December Show.



## Reliance Motor Trucks

R. M. Stickie

The line of commercial trucks, observation cars and omnibuses, designed by H. A. Wilcox and manufactured by the Reliance Motor Car Co., of Detroit, embrace many features heretofore unknown in heavy automobile construction. This company, which was very successful in building touring cars and runabouts, placed its first commercial truck on the market in January of the present year, and the demand for these cars has been so great that the concern recently determined to discontinue making pleasure vehicles, the undivided capacity of the factory being required to turn out the trucks. While the first cars have been very successful, constant experimenting has shown the designer ways of still improving the machinery, and as a result the present truck is of the highest standard.

The motive power for the Reliance Motor Truck is furnished by a two-cylinder valveless double action motor, and is claimed to have the power of a four-

sist of two internal expanding, and two external hand brakes, operating upon drums attached to rear hubs. The internal and external brakes operate against separate drums with an air chamber between, which assures proper cooling of brakes under severe work. Equalizing brake beams placed across the frame assure an equal amount of pressure to brakes on both wheels. At a speed of ten miles an hour, these powerful brakes can bring a truck to a full stop in a third of its length.

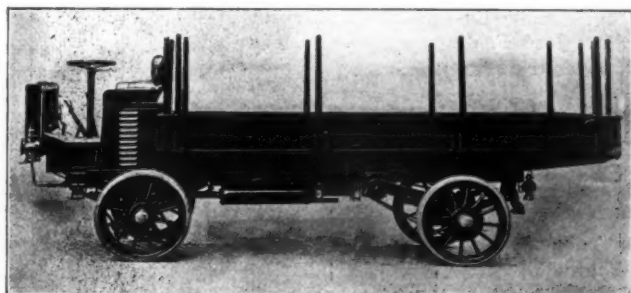
The front axle is a solid forging, 3 inch I-beam section, with 2 inch spindle equipped with Timken roller bearings. The steering knuckles are adjustable to permit taking up any wear. The rear axle is also a solid forging, with square section, has 2 inch spindles and is equipped with Timken roller bearings.

The chassis has a frame 36 inches wide and 10 feet 6 inches long, back of driver's seat, and as no part of the mechanism is attached to the body, it can be at-

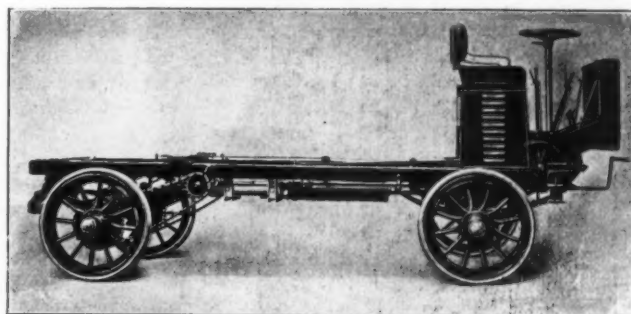
gears are special high grade hardened nickel steel, with all bearings ground to size.

A straight forward and aft motion of a lever at the right of the driver's seat controls the change speed gears and an interlocking device prevents the gears being shifted while the clutch is engaged and prevents any chance of stripping the gears. The drive is from the transmission through jack shaft and double chain to the rear hubs, the differential and bevel gears being enclosed in dust-proof housing with the transmission. These all run in oil, assuring perfect lubrication.

Operating the car is very simple, the clutch disengagement being effected by the outside lever before applying the internal emergency brakes. The left-hand pedal disengages the clutch only, while the right-hand pedal may or may not, at will of the driver, disengage the clutch before applying the ordinary exterior brake band. The throttle and spark positions are regulated by two vertical rockers on right and left of steering post. Ignition is jump spark with both



ONE OF MANY STYLES OF BODIES MADE BY THE RELIANCE



SIDE VIEW OF CHASSIS RELIANCE MOTOR TRUCK

cylinder engine. A feature of this internal combustion gasoline motor is that it has but five working parts, the pistons, connection rods and crank shaft. The engine is of 30 H. P., and is free from complicated parts usually employed in the construction of gasoline motors, and which are constantly sending cars to the repair shops.

A gear-driven mechanical lubricator with individual pumps to each oil pipe, furnishes perfect lubrication, and as each pump has a micrometer adjustment, the operator can determine at a glance the exact amount of oil being forced to the respective bearings.

Steering is accomplished with an eighteen inch wheel, two turns for complete throw of front road wheels. The worm and gear method is employed and provision is made for adjustment by means of a milled nut on the bottom, a one-notch turn of which will change the adjustment 1/320th part of an inch. The course of the car cannot be altered by any obstruction in the path of the wheels, as the steering gear is irreversible.

The brakes of the Reliance truck con-

tacted or detached at will without interfering with a single part of the chassis. Bodies are built any width up to 6 feet, and any length from 10 feet 6 inches to 13 feet. All Reliance trucks have the same motor, chassis frame and change gear, but the high-speed ratio, the axles and the springs are changed to suit the lighter or heavier requirements.

All trucks are geared to a speed best suited to requirements of the service for which the car is intended. A maximum speed of ten to twelve miles an hour when transmission gears are in high-speed position is the average for the three-ton trucks, while the trucks equipped with passenger bodies are those having a carrying capacity of one to one and a half tons are generally geared to twenty miles an hour.

The transmission is of the sliding gear type with three speeds forward and one reverse. The use of keys for attaching gears to the shafts is eliminated by the special construction of the gears, the webs being formed by flanges forged integral with the shafts and the rim of the gear is bolted to these flanges. The

storage cell and dry batteries, the coil being on the footboard above the battery box and just in the rear of the radiator, which is placed above the footboard in front. The gasoline tank has a capacity of 22 gallons and is situated under the driver's seat. This amount of fuel will easily carry the truck 200 miles or more.

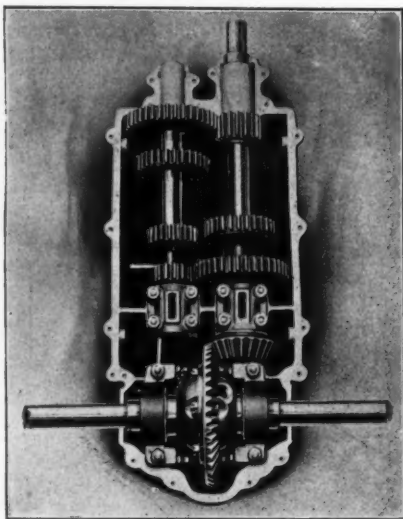
The radiator on a truck used for the past six months has never been warm enough to be uncomfortable to the hand when pressed against the top water chamber. This is owing to the peculiar construction. The top water chamber is piped to the lower water chamber only, and the water pipe to the pump is taken from the bottom of the lower chamber, water from the top of the water jackets goes to the top tier of tubes, and then down through all tiers of tubes in series to the bottom water chamber.

It was the writer's pleasure recently to take a ride with Mr. Wilcox in one of the three-ton trucks, and the easy riding qualities were a big surprise. The springs act so perfectly that it was like traveling in a big touring car. With

fine roads and good weather the trip to Pontiac; a distance of 26 miles, was made in 1 hour and 10 minutes. The truck was equipped with a large covered body and carried as freight a touring car body and six passengers, besides the driver. The entire distance, and the last seven miles is very hilly, was made with but one change of speed. After a very enjoyable dinner at the Hodges House we began our return journey after dark, and as we had started out for but a short trip, we were caught without lamps of any kind. At the hotel in Birmingham we borrowed an ordinary lantern, and with this tied in front, we made the return trip to Chicago, and despite the handicap, arrived in just one hour and thirty minutes.

#### M. Richard's New Engine

A racing car weighing less than 700 pounds with a speed of 100 miles an hour, developing 150 H. P., is what M.



RELIANCE TRANSMISSION GEAR

Francois Richard claims he will construct. He intends to attain these wonderful results by employing a turbine gasoline engine which he has built at a Harlem machine shop. The engine makes from 100 to 3,000 revolutions a minute and weighs only 120 pounds, while an ordinary racing motor developing the same power weighs about 1,200.

A new entrant in the motor car business is J. W. Mason, of No. 35 Fabian Place, Newark, N. J. He has secured the Newark agency of the Maxwell and Stoddard-Dayton cars and will handle a handsome line of autos.

R. E. Olds' latest venture is with the Michigan Screw Company as president. The company was recently incorporated at Lansing, Mich., with \$100,000 capital, and will manufacture machine parts for motor cars and gasoline engines.

### Society Notes

Mr. and Mrs. William B. Leeds have returned from a delightful tour through the New England States.

Mrs. E. H. Harriman and Miss Harriman have been on a motor trip south, in their Mercedes car.

W. Gould Brokaw, of auto racing fame, has had his Mercedes car overhauled recently and expects to enter the Ormond-Daytona races and other coming speed contests.

Many of America's smart set have been making motor tours through Europe the past season. The Colgate Hoyts made an extended auto trip through Switzerland and Germany and returned only recently. The tour was gotten up for their guest, Mrs. "Daisy" Simonds, who is exceedingly popular in New York society.

Others who have been "seeing Europe" à la motor are Mrs. José F. de Navarro and party. Mrs. de Navarro has been visiting her son, Mr. Alfonse de Navarro, and had a delightful time abroad. General and Mrs. James M. Varnum also went through the Continent in a touring car.

Baron Rosen, Russian Ambassador to the United States, has shown his preference for an American car, by purchasing a 35 H. P. Locomobile, which has just been delivered. The Ambassador is delighted with his new toy and announces that he is another who is going to "stick to the wheel of the Locomobile." So "drive her around again, Baron—round and round and round."

The early part of last month, Mrs. Ogden Armour, who is one of Chicago's foremost society leaders, with Mrs. Arthur Meeker, Mrs. Medill McCormick and others, got up a gymkhana at the Libertyville Race Track for the benefit of Chicago's sick children. One of the features was an auto racing carnival which attracted wide interest. Other events were trotting and pacing events, steeplechase, polo and various outdoor sports.

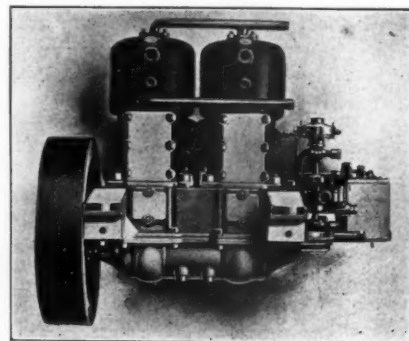
The Elite and their gowns reigned supreme at the grand stand on the day of the race. Some of those who occupied boxes were the Vanderbilt-Belmont party, who had four front boxes. Mrs. William K. Vanderbilt's guests were Mr. and Mrs. O. H. P. Belmont, Cornelius Vanderbilt, Mr. and Mrs. Peter D. Martin, Charles May Oelrichs, Mrs. Edward

R. Thomas, Mr. Alfonso de Navarro and Miss Madeleine Knowlton.

Miss Gwendolyn Burden was the guest of Mrs. August Belmont, Jr. Mrs. John Jacob Astor and Mrs. Joseph S. Stevens, who is in mourning, had adjoining boxes, and as guests, Mrs. Stanley Mortimer and Mrs. J. Borden Harriman. The Misses Beatrice Mills and Jean Reed were chaperoned by Mrs. James B. Eustis. In Mrs. Francis C. Bishop's box were Miss Elizabeth Mortimer and Miss Elizabeth Morton.

Mrs. Arthur S. Burden, formerly Miss Cynthia-Roche, was with Mrs. James A. Burden, Jr. Mrs. Arthur Iselin and Mrs. A. Cass Canfield were also in mourning gowns. Mrs. Pierre Lorillard, Jr., and Mrs. Peter Cooper Hewitt sat in a box together. Mrs. A. Scott Cameron, Miss Angelica Gerry and Mrs. William Woodward did the same. In the next box sat Mr. and Mrs. Sidney J. Smith. Mr. Smith's lavender and black waistcoat was quite a hit.

Of the younger set attending, were: Miss Janet Fish, Miss Evelyn Parsons, Misses Edith and Dorothy Kane, Miss



RELIANCE VALVELESS DOUBLE ACTION MOTOR

Margaret Dix, Miss Anne Kountze, Miss Katherine Barney, Miss Ashbel Barney, Miss Anita Peabody and others.

Opposite the grand stand were the Meadowbrook set in Thomas Hitchcock, Jr.'s, stand. Here were Mr. and Mrs. Reginald Brooks, Mr. and Mrs. Oliver Bird and Miss Bird, Mrs. Thomas Hastings, Mr. and Mrs. Herman B. Duryea, Miss Leila Bryce and Mrs. Harry Payne Whitney's two children.

Cryder & Co. are handling a new 50 H. P., 6-cylinder Mors car, which they will exhibit at the coming show. They will also display a 10 H. P. and a 15 H. P. Mors, which will make quite a variety of foreign models for one firm to exhibit. O. H. P. Belmont recently purchased a 45 H. P. Mors Landaulet. T. A. Havemeyer is also the owner of a 28 H. P. car of this make.

Chrysanthemums were grown in China before the eleventh century.



## In the Court House

### Bill's Stop Watch

Night Policeman William Stamper, of Macon, Mo., is what they call a detail man. Before Bill got his job they used to yank automobiles for bursting the nine-mile-an-hour ordinance about six times per day. Then when the witnesses were lined up they gave all sorts of testimony. The policeman would swear the car was sailing through the boulevards at 50 miles an hour. Casual spectators would place the speed from nothing to 100 miles an hour. The driver would hold up his right hand and declare he never did exceed six miles in sixty minutes. This put the jury up a stump and there were no convictions. Sometimes a car owner would take pity on the poor policeman and pay up without a trial. But when Billie donned his blue uniform and club there was a change. He measured off several courses along the most promising stretches of roadway and got him a stopwatch. One night recently Freddie Bles, son of Col. F. W. Bles, the German millionaire, ran into Bill's net with his red devil. The first he knew of trouble was when a man jumped out of the dark and blew a shrill whistle. Then he looked back and saw Bill standing under an arc light scrutinizing something in his hand. Next morning Fred was invited to appear in police court and tell why he had violated the peace and safety of the town by cutting 20 miles of air per hour. Bill told about his secret course and showed his wonderful stop watch. The crowd looked sympathetically at poor Freddie. The only way out for him seemed to be a leap through the window. Then a little sawed-off lawyer, Tom Dysart, by name, in a soft, insinuating way, began asking questions of the detail man:

"That your watch, Bill?" he asked.

"No, sir."

"You borrowed it?"

"Yes, sir."

"Who set it?"

"It was set when I got it."

"Keep good time?"

"I—I reckon so."

"At 12 o'clock on the 8th day of July

what time was it by your borrowed stop watch?"

"Twelve o'clock."

"Did you compare it at that hour with the official time?"

"No, sir."

"Then you are not swearing your watch was absolutely correct that day?"

"No, sir."

"But at some time or other during the day it was 12 by your watch, if it kept going?"

"Yes, sir."

"When you say Fred ran 225 yards in 25 seconds you mean the watch said so?"

"Of course."

"You didn't make the watch?"

"No, sir."

"You don't know the man who did?"

"No, sir."

"The fellow you got it from didn't make it?"

"No, sir."

"You never saw a certificate showing the watch kept good time?"

"No, sir."

"You don't know but what it was a prize watch sent out with chewing gum?"

"I don't think it was."

"But you don't know?"

"No, sir."

"Was that an imported watch or an American watch?"

"I don't know."

"How long had it been in use?"

"I don't know."

"Had you greased it lately?"

"You don't grease watches."

"Don't, eh? Had you ever used a stop watch before?"

"No, sir."

"Do you know whether the passage of an electric car has any effect on a stop watch?"

"I—I never thought of that."

"I presume not. Do you know whether or not the passage of an electric automobile will retard the movement of a stop watch?"

"No, sir."

"Have you ever consulted Edison's Electric Manual to ascertain that fact?"

"No, sir."

"Now, considering all these matters, are you willing to swear to this jury that Fred ran over your course in exactly 25 seconds?"

"No; but that is what the watch showed?"

"I don't doubt it, but I am asking you; not the watch. Do you know?"

"No, sir."

The defendant was acquitted.

### Those Awkward Questions

This little story comes from the South:

The first slice of goose had been cut, and the negro minister, who had been invited to dine, looked at it with as keen anticipation as was displayed in the faces around him.

"Dat's as fine a goose as I ever saw, Brudder Williams," he said to his host. "Where did you get such a fine one?"

"Well, now, Mistah Rawley," said the carver of the goose, with a sudden access of dignity, "when you preach a special good sermon I never axes you where you got it. Seems to me dat's a trivial matter, anyway."—Scissors.

In a town in Illinois a traveling theater troupe were playing Damon and Pythias. The most exciting scene of the play is the last act, where Damon is about to be led to execution and is straining his eyes looking for a friend to bring a reprieve, and frantically calls out, "Is he coming?" At this exciting moment the sound of a locomotive whistle was heard, and some wag in the audience shouted, "He'll be here by next train," and the tragedy was converted into a comedy of laughter.

The Pedestrian—There are no two ways about it. Some plan must be devised to keep you autoists from exceeding the speed limit.

The Autoist—Easy enough. Raise the limit.—Browning's Magazine.

"Papa, what is savoir faire?"

"Savoir faire, my son, is the ability to lie without a moment's preparation."—Princeton Tiger.



### The Babcock Electric Car

The Babcock electric car here shown with Mr. Frank Babcock, Jr., at the wheel, made a celebrated run from New York to Philadelphia, over 90 miles, without charging, the most notable performance of an electric car.

The principal features are very light weight—about 1,250 pounds—thereby enabling them to use pneumatic tires, which would not be practicable were it not for its lightness. Double chain drive, reducing the friction to a minimum.

Wheel base of 72 inches, which, in connection with the spring suspension of half platform in front and full elliptic in back, coupled with the pneumatic tires, insures a perfect riding vehicle under all conditions.

Is equipped with wheel steer; battery of 24 cells and motor hung in body. Controller has five (5) forward speeds and two (2) backward. Upholstered in



MR. FRANK BABCOCK, JR.

In the Babcock Electric that made the famous run from New York to Philadelphia

leather, either blue or green, and painted to match. Top is made of Pantasote.

This car is intended for business purposes, and besides having a great mileage capacity, owing to its lightness (have made considerably over 100 miles on one charge at a speed of 13 miles per hour) it can show a speed of 30 miles per hour. The regular running speed is 18 miles, and properly operated over good level macadam roads, should give readily over 65 miles on one charge.

### Bad Route to Norfolk

Mr. C. Royce Howe, manager of the Pope Manufacturing Company, does not speak very highly of the proposed Glidden trophy tour to Norfolk, Va., next year. Talking of the trip he made

over the route, he expressed the following opinion:

"It will be the survival of the fittest in the Glidden cup tour. There will be no perfect scores. Of course, the route is possible for the tour, but I don't believe any but the best cars will go the whole trip. Many of them will have to ship. I drove our party every foot of the way in a 40-H. P. Pope-Toledo. At one time, down there in the swamps near Norfolk, I was steadily going for three hours and a half, and made only 22 miles. That shows how hard 'the going' is.

"In my opinion, however, it will be a fairly good route for the Glidden tour, because of the very fact that there will be no perfect scores. But also there will be no easy driving between Richmond and Norfolk, and I think it will be impossible for the smaller cars to get through. Only the best can survive.

"Between Washington and Staunton, down through the beautiful Shenandoah Valley, the roads are fine—about as good as any country roads you will find in any part of the country. From Staunton to Richmond the roads get worse, and from Richmond to Norfolk you find the worst of it."

### New Matheson Garage

The garage being erected by the Matheson Company, Broadway, Forty-ninth and Fiftieth streets, promises to be something good in the way of an addition to Motor Lane. It is to be a five-story, strictly fireproof, reinforced concrete building and is being constructed so that three additional stories may be added at any future time. Each storage floor will have an approximate capacity of 150 cars. The main entrance for cars will be on the Seventh avenue side and the Broadway front will be occupied by a 36x48 foot show room with a bronze balcony.

Plans are being made by the Hotchkiss Automobile Company, of St. Denis, France, to manufacture Hotchkiss cars in America, in order to escape the 45 per cent. duty on importation. L. J. Benet, general manager of the Hotchkiss Gun Company, J. J. Mann, manager of the automobile branch of the concern, and A. M. Archer, of New York, the American representative of the Hotchkiss car, were recently the guests of E. R. Thomas, at Buffalo. Speaking of the proposed idea, Mr. Benet said: "We may build a factory outright, or we may place the manufacture of the machine with an American concern. Just which we will do has not yet been decided."

There are more accidental deaths from drowning every year in Great Britain than from any other cause.

### EXTRACTS FROM EDITOR'S NOTE BOOK

#### The Blundering Samaritan

American automobilists have no reason to complain of the Samaritan who passes on the other side and pretends not to see that his brother or sister automobilist is in trouble. Help is nearly always freely offered, and I, for one, have been saved from patronizing the trolley cars through help volunteered by passing wayfarers.

Circumstances alter cases, however, and that genial gentleman, Joseph H. Wood, president of the New Jersey Automobile and Motor Club, complains that circumstances were against him when a green German automobilist volunteered to help him when in trouble. Mr. Wood was out on a short tour with his family through the New Jersey uplands, when one of his tires got punctured. Mr. Woods is a veteran automobilist, and the puncture did not embarrass him but very little. He ran his car close to the ditch and proceeded to patch the hole. As he was thus engaged a Cadillac car came tearing along, and its driver began yelling, "Do you want help?" So intent was the man on doing a service that he overlooked the steering of his own car and dashed into the rear end of that belonging to Mr. Wood, hitting it with such force that it was driven thirteen feet ahead. The Cadillac man backed out and tried to resume his journey, but instead of going straight, bumped into the side of Mr. Wood's car, sticking fast in the wreck. The engine of his car kept going at a furious rate, and Mr. Woods called out, "Why don't you stop your engine?" "I don't know how," replied the German, and Mr. Wood had to go and stop the engine by cutting off the electric current! I wonder how many people are on the road running automobiles who don't know how to stop the engine?

#### An Eminent Visitor

Sir William Perkin, an English chemist, visited this country last month, and very few Americans knew that one of the greatest benefactors of the human race had landed on our shores. When he was a lad of seventeen William Perkin went experimenting on synthetic chemistry with an idea that he could produce quinine, mixing the elements that constitute that substance. I need hardly explain that synthesis is the building up of a compound from its elements being the reverse analysis.

Perkin did not succeed in making artificial quinine, but he discovered that tar was a substance that would yield a marvelous variety of compounds as unlike their source as light differs from darkness. He discovered that aniline

dyes could be made from tar and thereby revolutionized the art of dyeing and decoration. Many thousands of people have enjoyed well remunerated employment through this discovery and many new industries have been established by other inventions which William Perkin's discovery suggested. Yet few Americans are acquainted with the name of William Perkin, and I have failed to find it in any encyclopedia.

#### Certificates Easily Secured

There is a great deal of humbug in much of the stuff that appears in the public prints demanding that people should be required to pass an examination before being permitted to drive an automobile. I have known of engineers to pass a first class examination for marine work who had never made a trip in a steamer's engine room. I have examined men for the position of locomotive engineer, and found they gave correct answers to all questions, although they had never made a working trip on a locomotive.

What is wanted of our automobile driver is not theoretical knowledge but practice of handling a car, and this must be received on the road. It is much more important for a driver to move by impulse to do the right thing when a quick stop is necessary than to understand what is wrong when the engine begins to miss fire. The impulse to do the right thing comes only from experience, and that should be obtained by the side of an experienced driver, ready to correct any wrong move.

My friend, John A. Hill, tells a funny story—he has a capacity for making stories funny—about a young Italian who looks after his automobiles, securing a certificate of efficiency as a chauffeur. Mr. Hill bought a new car recently, and, of course, took out a new license. One day Tony, the Italian, said: "Messa Heel, you no gotta pepa for me run new car?" "No," said Mr. Hill.

"You no needa gotta pepa for me, I gotta 'one masef."

Sure enough, Tony had applied to the proper authorities in Trenton and had received a certificate entitling him to run any kind of motor car anywhere in New Jersey.

#### The Automobile Develops Patriotism

It seems to me that automobilism is calculated to make people familiar with the attractive features of the country and also the places of historical interest. This will have the effect of cultivating sentiments of patriotism, which many Americans sadly lack.

When I was an apprentice living in a Scottish town with many places of noted historical interest in the neigh-

borhood, it was a common practice for us boys to make trips on Saturday afternoons and on Sundays to visit places where things had happened long ago that kept the memory of the places green. Sometimes it was

"By some auld howlet-haunted biggin  
Or kirk deserted by its riggin,"

that we spent inquiring hours, but they always stirred within us the emotions that moved Scott to write:

"Breathes there a man with soul so dead,

Who never to himself hath said,

This is my own, my native land."

In this country I was surprised to find the meager interest displayed by people in the places of historical interest in their native land. Greater experience explained that the long distances and the discomforts of walking in extremes of temperature blunted the

plows are often heard of and illustrated, but we do not remember of having seen anything about an automobile plow. Gasolene propelled motor cars have been used for everything from sawing wood in the back yard to hauling heavily loaded freight cars. It remained, however, for the Aerocar Company, at Detroit, to plough with an automobile.

Everyone has observed at some time or another, contractors who were ploughing up the surface of an old, well-beaten street, previous to paving it. It is with the greatest difficulty that the plow is made to turn a furrow. Similar conditions existed at the plant of the Aerocar Company.

There is a hard cinder drive at the side of the factory, which had been graded so high that during heavy rains the water ran into the building. It was decided to lower the grades and thus remedy the trouble.



AEROCAR PULLS A DEEP CUTTING PLOW

curiosity of people really interested in memorials of past events.

The State of New Jersey and all the regions about New York and Philadelphia, to say nothing of New England, contain many scenes where stirring events of the Revolution happened, and many of them have been marked by monuments erected by the historical societies. I find that automobilists are beginning to find out such places and to visit them, which is certain to have a good effect upon the minds of young people. A motor car is an ideal means of conveyance to such places, for it can penetrate into out of the way haunts and linger round sacred spots until the party has thoroughly enjoyed all the attractions of the place.

#### Automobile Pulls a Plow

Steam plows—gang plows—sulky plows and numerous other varieties of

In ploughing up the old drive, someone suggested that an Aerocar be used. It was not thought possible that it could pull such a dead load. It was stated that the wheels would spin round before the hard dry roadway would give way to the plow. Nevertheless, no one can tell without trying, and the makers of this machine are always willing to put the car to the most severe tests to prove its ability.

As is seen in the accompanying illustration, a tester was hitched to the plow with a double rope. The powerful four-cylinder air-cooled motor was then started—the clutch let in—the wheels began to dig, the point of the plow sank out of sight with a grating, grinding sound and the hard packed ground cracked apart and was turned by the share. After the drive was thus loosened up it was shoveled into wagons and removed.



### Chicago Auto Parts Show

The First National Auto Parts Show, held in the First Regiment Armory, Chicago, the week of September 22-29, proved a decided success, and the management has decided to make it an annual event hereafter. About one hundred firms were represented among the exhibitors. Spark plugs, tire tools, portable auto houses, carbureters, pumps, jolt devices, jacks, wrenches, transmissions and mufflers in diversified forms appeared in dazzling array, the exhibitors vying with each other to see which could present the most attractive display, the result being a very agreeable surprise to the large crowds which nightly visited the show.

In a theater erected in one corner of the great hall moving pictures of four great races were shown. This arrangement was hit upon in order that it might not be necessary to darken the main hall when the views were thrown on the canvas. No extra charge was made for admittance to the little theater, and the pictures of the 1905 Vanderbilt Cup Race, Gordon Bennett, Ormond-Daytona and Paris-Bordeaux races were an enjoyable feature of the show. The Seventh Regiment Band also added to the entertainment of the visitors by furnishing music every afternoon and evening. Wednesday night 50 per cent. of the receipts were given to the building fund of the Chicago Automobile Club. Thursday night was set aside for the Austin Automobile Club, which attended in a body; Friday night was for the visiting mayors, who were holding their annual convention in Chicago; and Saturday night for chauffeurs. A gold watch was awarded to the chauffeur who got the most votes in a popular voting contest.

Among the exhibits were many strange devices for the motor wagon, in addition to the attachments that are familiar to automobile users. Among the exhibits were the following: Limousine Carriage Mfg. Co., Chicago, automobile tops and bodies; Irland Pipe Wrench Co., Boston, automatic wrenches; Chicago Portable House Co., Chicago, portable fireproof auto houses; Jay A. Fisher & Co., Chicago, supplies; Adams & Westlake Co., Chicago, lamps; Speed Changing Pulley Co., Indianapolis, carbureters; Turner Brass Works, Chicago, carbureters and general line of brass goods; L. J. Mutty Co., Boston, rubber goods; American Electrical Novelty & Mfg. Co., New York, "Ever Ready" dry batteries; J. C. Paul & Co., Chicago, hornshine polish; Alvin & Jackson, Chicago pocket battery ammeter; Motor Car Supply Co., Chicago, No-Ko-Rode; Studebaker Bros. Mfg. Co., Chicago, improved automobile front; H. H. Stocker Machinery Co., Chicago, machines for cylindrical grinding; American Co., Menominee, Ill., wrenches; Charter Manufacturing Co., Chicago, lubricators and spark plugs;

Are Spark Plug Co., Chicago, spark plugs; Adams & Elting Co., Chicago, paint and varnish remover; Perfection Auto Top Co., Chicago; Railway Appliance Co., Chicago, wrenches and steps; Jewel Mfg. Co., Chicago, cleaning compounds; Hopewell Bros., Cambridge, Mass., fabric supplies; John F. McCanna, Chicago, automatic cleaning spark plug; Edward Neely, Chicago, force feed system of lubricating; Franco-American Auto & Supply Co., Chicago, supplies of all kinds; Harburg Tire Co., New York; U. S. Jack Co., Chicago, jacks; Crouse-Hinds Co., Syracuse, N. Y., commutators; Walton Automobile Garage, Chicago, hot air heaters for automobiles; Chas. Weiss & Son, Chicago, curtain fasteners; Helios Mfg. Co., Philadelphia, storage batteries for electrical vehicles; Marion Motor Car Co., Indianapolis, Hassler transmission; Sherwin-Williams Co., Buffalo, paints; C. F. Marohn, Mil-



MR. A. M. ANDREWS

Secretary Manufacturers of Automobile Parts, Appliances and Accessories Exhibition, to whose efforts success of show is largely due

waukee, pneumo-wheels; Adam Cook's Sons, New York, Albany Grease; Lauperson Motor Co., Chicago, self-starting motors; P. M. Hotchkiss, Chicago, anti-jolt device; National Battery Co., Buffalo, sparking batteries; William S. Jones, Philadelphia, "speedistimeter"; Federal Automobile Co., Chicago, ball-bearing wheels; Empire Automobile Tire Co., Chicago, inner tubes; Manhattan Electrical Supply Co., Chicago, dry batteries; J. Milton Waugh, Chicago, springs; Morrison, McIntosh & Co., Grinnell, Ia., ventilated gloves; United States Graphite Co., Saginaw, Mich., lubricating graphite; Tuthill Springs Co., Chicago, springs; J. H. Bishop Co., Wyandotte, Mich., fur coats and capes; Supplementary Spiral Springs Co., St. Louis, springs; Fred Parks, Grand Rapids, Mich., cement; Auto Cape Top Co.,

### CONTENTS

*The Vanderbilt Cup Race.....	297
*Wagner, Driver of Darracq Car.....	300
*Lancia, Driver of Fiat Car.....	300
*Duray, Driver of De Dietrich Car.....	300
*The Chadwick 1907 Touring Car.....	301
State Automobile Laws.....	302
*C. W. Kelsey in a Maxwell Runabout.....	303
The Taxation of Foreign Automobiles in Germany.....	304
*Mr. and Mrs. Glidden in Their Steel-Wheeled Napier.....	304
*The Goggles.....	304
Unjust Blame.....	306
Speed Tests.....	306
*Jenatz, Driver of Mercedes Car.....	306
The Shock Absorber.....	306
France Ahead.....	307
Washing Automobiles.....	307
Le Blon, Driver of Thomas Car.....	306
Tour of a Well-Known New York Business Man.....	307
*Portrait of M. J. Budlong.....	308
The Lawmakers' Responsibility for Auto Accidents.....	308
*European Notes and Comment, by A. F. Sinclair.....	311
The Spirit and Letter of the Law.....	313
Revival of Liquid Air Power Claims.....	313
Correspondence Schools.....	313
Automobile Racing.....	314
The Gasolene Omnibus.....	315
*Ford's Famous \$500 4-Cylinder Runabout.....	315
Information Bureau.....	316
Mechanical Engineering.....	317
Slotting Shafts and Spindles for Keys.....	317
Case Hardening Wrought Iron.....	318
*Mrs. Frederick Grant in 40 H. P. Thomas Runabout.....	318
*Aerocar Works.....	320
Garage Notes.....	321
*Factory of the E. R. Thomas Detroit Co.....	321
*Tarrytown Automobile Garage and Machine Works.....	322
A. C. A. Applications for Membership.....	322
*A Model Garage.....	323
*Sketching Board of the Automobile Shop.....	324
*Pope-Hartford Model for 1907.....	325
Events of the Month.....	326
*Worcester, Mass., Gymkhana.....	326
Contest for the Oquaga Cup.....	326
Boston Dealers' Outing.....	326
*Opening of the A. & M. Club Rooms at Newark, N. J.....	327
To Secure Private Course.....	327
*George M. Cohan and His Darracq Car.....	328
Of Personal Interest.....	329
*Reliance Motor Trucks, by E. M. Stickle.....	331
Society Notes.....	332
Bill's Stop Watch.....	333
*The Babcock Electric Car.....	334
Extracts from Editor's Note Book.....	334
*Automobile Pulls a Plow.....	335
Chicago Auto Parts Show.....	336
Portrait of Mr. A. M. Andrews.....	336
Notes of the Show.....	338
*The Graygood Shock Absorber.....	340
American Methods Surprise Europeans.....	340
*Patent Office Department.....	344
The "P. and S." Rack.....	346
*The Unique Automobile.....	348
*Motoring a la Burnt Cork.....	350
Increasing Importance of the Auto Truck, by Robt. Bruce.....	352
In Turkey and Asia Minor.....	356
Government Regulations for Denatured Alcohol.....	362
Coming Events.....	365



**I**f you want absolute immunity from  
**PUNCTURES  
 BLOW-OUTS  
 RIM-CUTTING  
 SKIDDING**

and release from tire anxiety of every kind

Use

## **Healy Leather Tires**

The construction of these tires is an evolution—the *survival of the fittest*. No tire has ever been produced that contains the peculiar virtues of a Healy Leather Tire.

Profiting by the failures and successes of our competitors, we have made the Healy Leather Tire unequalled, and have produced a tire of which it can positively be said that it is made with "The Best of Everything in the Best Place."

**HEALY LEATHER TIRE CO.,** Healy Building, 88-90 Gold St., New York City

We have much to tell you—let us say it

**Insure  
 Your  
 Motor**

Against Wear and Carbon Troubles by Using

## **INVADER OIL**

—The Oil That Graphitizes—

MANUFACTURED ONLY BY

**Grades to  
 Meet all Re-  
 quirements**

YOU NAME  
 THE COST

WE'LL NAME  
 THE GRADE

**CHAS. F. KELLOM & COMPANY, 128 Arch Street, Philadelphia**

## **Index to Advertisers**

	Page		Page		Page
The Aerocar Co.....	339	Hardy Co., R. E.....	341	Oscar Lear Automobile Company.....	—
American Industries.....	368	Hartford Suspension Co.....	339	Ocean Hotel.....	—
American Motor League.....	—	Healy Leather Tire Co.....	337	Pacific Tucking & Mfg. Co.....	—
Automobile Institute, The.....	—	Heller, J. S.....	366	Palmer & Christie.....	—
Automobile Pocketbook.....	366	Homan's Educator.....	—	Pierce Co., George N.....	—
Badger Brass Mfg. Co.....	—	Hotel Euclid.....	353	Pittsfield Spark Coil Co.....	357
Book Department.....	—	Information Bureau.....	—	Pope Mfg. Co.....	357
Bullard, J. H., & Son.....	351	Invader Oil Co.....	337	Portable Buffet Co.....	—
Chandler Co.....	—	Jeffery & Co., Thomas B.....	—	Practical Gas Engineer.....	—
Columbia Automobiles.....	—	Jones Speedometer.....	359	Quinby & Co., J. M.....	347
Condax, E. A., & Co.....	—	Kilgore Auto Air Cushion Co.....	—	Rambler Automobiles.....	—
Continental Caoutchouc Co.....	351	Lexington Hotel.....	341	Rochester Auto Co.....	347
Correspondence School of Auto Engineering..	—	Locomobile Co. of America.....	—	Roever Co., Henry.....	—
Darracq Motor Car Co.....	Front Cover	Lobbe Pump and Machinery Co.....	—	Royal Motor Car Co.....	4th Cover
Dayton Electrical Mfg Co.....	341	Long & Mann Co.....	—	Rubay, Leon.....	347
De Dietrich Import Co.....	—	Long Island Railroad.....	—	Self Propelled Vehicles.....	—
Derre-Clark Motor Car Co.....	361	Manley, Chas. H.....	—	Smith Mfg. Co., R. H.....	341
Detroit and Buffalo Steamboat Co.....	364	Matheson, The.....	345	Snutsel Auto Supply Co.....	341
Diamond Rubber Co.....	ad Cover	Maxwell-Briscoe Motor Co.....	343	St. Louis Motor Car Co.....	ad Cover
Diesemann Shock Absorber.....	359	McGiehan Mfg. Co.....	—	Splittorf, C. F.....	347
Diets Co., R. E.....	—	Mechanical Appliances.....	—	Sprague Umbrella Co.....	4th Cover
Dixon Crucible Co.....	—	Mendenhall's Road Maps.....	341	Springfield Top and Upholstering Co.....	341
Duryea Power Company.....	368	Meyrowitz, E. B.....	—	St. John Rubber Tire Co.....	—
Eldredge Elec. Mfg. Co.....	341	Michelin Products Selling Co.....	359	Swinehart Clincher Tire & Rubber Co.....	—
Electric Vehicle Co.....	—	Miller, Chas. E.....	—	Thomas Motor Co., E. R.....	355
Elmore Mfg. Co.....	—	Motorcar Co., The.....	347	Three Men in a Motor Car.....	—
Fickling & Co.....	341	Motor Directories Co.....	363	Traction Tread Tires.....	353
Fiak Rubber Co.....	345	Motor World, The.....	339	United States Jack Co.....	366
Ford Motor Company.....	349	Mutty Co., L. J.....	—	Vacuum Oil Co.....	339
Prayer-Miller.....	—	Napier Motor Co. of America.....	—	W. E. B. Sparkplug Co.....	347
Punke & Co.....	—	New Jersey Central.....	—	White Sewing Machine Co.....	—
Gabriel Horn Mfg. Co.....	—	Niagara Motor Boat Co.....	—	Willis Co., E. J.....	—
Gas, Gasoline and Oil Engines.....	—	Northern Mfg. Co.....	—		
Graygood Shock Absorber.....	347				

Chicago, tops; Rotary Triplex Pump Co., Chicago, pumps; Wm. E. Pratt Mfg. Co., Chicago, jacks; A. M. Doggett, Chicago, inner tube protector; Longdin-Brugger Company, Fond du Lac, Wis., tops and trimmings; Long & Mann Co., tire adjusters.

#### Notes of the Show

George Briggs, who is a familiar figure at all shows pertaining to automobiles, was a busy man, as everybody wanted to see the autocle wrench, exhibited by the Railway Appliances Company, of Chicago, of which Mr. Briggs is publicity manager. This company also showed their patent automobile step, which is becoming very popular.

A. J. Oliver, head of the U. S. Jack Company, of Chicago, was on hand to personally show the good points of the U. S. Jack.

P. M. Hotchkiss, inventor of the Hotchkiss jolt device, of Chicago, was particularly interested in the show, and spent a great deal of time in explaining the work of his patent. The first evening of the exhibition his big touring car was stolen from in front of the armory.

The U. S. Graphite Company, of Saginaw, Mich., had a very handsome exhibit and the booth was a gathering place for the dealers, who all know H. C. Woodruff, the genial manager of the company, who was present.

The Charter Manufacturing Co., of Chicago, showed a new spark plug which had many good points. This company also makes an automatic lubricator, which, it is claimed, has many advantages over the ordinary styles of mechanical lubricators.

The Federal Automobile Company, of Chicago, a new concern which is manufacturing a light runabout, had an exhibition of ball-bearing wheels. They claim that these wheels will outwear any automobile built, and that they will run at the rate of fifty miles per day for six months and need greasing but once, and then only on the felt washer, to protect it from water, dust and dirt.

A. M. Doggett, of Chicago, had charge of the exhibit of the "D.-D." inner tube protector. This protector carries all the air pressure and the casing acts as a shield. It is claimed that the casing prevents punctures, rim cuts, blowouts and pinching of inner tube.

There was always a crowd around the booth of the Lau-Pearson Motor Co., the "Triumph" self-starting motor being the attraction.

The Rotary triplex pump, of the Rotary Triplex Pump Co., Chicago, was another device which proved of great

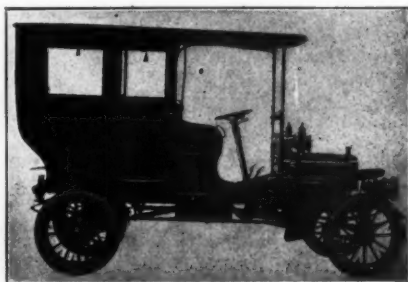
interest to the visitors. With this pump the engine does the work of inflating the tires.

A handsome line of automobile gloves was shown by Morrison, McIntosh & Co., of Grinnell, Iowa. This company has the only ventilated glove on the market and also owns the patent on the wrist-fit gloves.

Something new was exhibited in the way of a warm air heater for automobiles. The Walton Automobile Garage, of Chicago, are the sole manufacturers and distributors of the H. and H. heater and will be pleased to give full particulars.

Edward Neely, of Chicago, had an exhibit of the Neely Lubricator and the McCanna Automatic Cleaning Spark Plug was shown by John F. McCanna, of Chicago.

The pocket battery ammeter shown by Alvin & Jackson, Chicago, attracted considerable attention. The readings of this ammeter are controlled by a fine phosphor-bronze spring, which is very



SILENT NORTHERN LIMOUSINE  
Made by the Northern Motor Car Co., Detroit

constant, and which insures the continued accuracy of the instrument.

J. C. Paul & Co. were there, represented, of course, with a full line of "Burnishine."

The pneumo-wheel, the invention of C. F. Marohn, of Milwaukee, which is claimed to be a puncture-proof automobile wheel with easier riding qualities than anything now on the market, created considerable attention. This invention presents an entirely new principle in a wheel for overcoming jar and vibration. It does away with the pneumatic outer tire by having a pneumatic cushion securely encased at the hub, which is guaranteed to take up all jar and jolt far more than the regular tire.

The Turner Brass Works, Chicago, had its well-known exhibit of brass goods and in addition showed the Turner carbureter.

The Speed Changing Pulley Co., of Indianapolis, had its representatives present to tell of the good points of the universal carbureter to those not already familiar with this well-known instrument.

#### Early Experiences

Mr. C. H. Fletcher, of San Jose, Cal., in telling his experiences to a reporter of the San Jose Mercury, said that the first machine he owned was an Oldsmobile.

"It was Christmas day, in 1900," Mr. Fletcher began, "and I was so proud of that machine of mine, which was the first Olds in the city, that I wanted to take somebody a ride. So I got Henry Boschken, and we started up to Poncelet's in the Santa Cruz mountains, to spend the day.

"That wagon of mine could beat a walk, on the level, but when we got into the hills, I had more than I had bargained for, but by this time I had praised my machine so much that I would not back out, and we started up one of the long, steep grades.

"The engine, a little 'one-lunger,' puffed and puffed, and finally died down, about a third of the way from the top. There was nothing to do but push, so Boschken and I got out and managed to get it to the top of the hill, where I ran a bluff about something being the matter with the machinery, and that I would fix it. I spent a half hour on my back, in the middle of the road, and finally announced that we were ready to go on.

"Boschken did not seem to be so anxious, and suggested walking, but I persuaded him with stories about how the machine was all O. K., and then he got in. We started down grade and were going fine, when the telephone poles began to fly past like the pickets in a fence. Boschken again suggested walking, and I tried the brakes. Nothing doing, and we were gaining momentum at every revolution of the engine. I shut off the power and coasted, and I believe to this day that we beat any record ever made on that hill. We would leave the road at times and land twenty feet further down without the least jolt. The bottom was reached without mishap, which we considered remarkable, and then Boschken said that he knew he was going to walk.

"I kept him in the machine, however, and we went on. From the first grade clear to Poncelet's we walked up and pushed the car and coasted down with brakes set, finally reaching our destination in time to say good-night to our friends. That was surely an example of the pioneer days of motoring and varies quite a little with the trips now being made by the machines over those same hills."

# Vanderbilt Cup Race Victory

**FOR**

# Truffault-Hartford

## Shock Absorbers

## READ WHAT WAGNER SAYS:

TELEPHONE 1000 1000 1000

**Darracq**  
**Motor Car Company**

SOLE ADDRESS  
AGENTS AND IMPORTERS OF  
A. DARRACQ & CO. FRANCE  
—  
LONDON BRISTOL  
LYONS MARSEILLE PATRIS  
N. 100 100

IMPORTED AND DISTRIBUTED BY THE  
FAMOUS DARRACQ AUTOMOBILES  
1000 BROADWAY  
NEW YORK 1000

CAR'S ADDRESS "DARRACQ" N. Y.  
WORKS OF  
ADDRESS 1000 BAY, 10  
VANDERBILT CUP RACE, 10  
DARRACQ & CO. FRANCE  
100 100 1000 1000  
1000 1000 1000 1000

NEW YORK October 8, 1906.

Hartford Suspension Company,  
# 67 Vestry Street,  
New York City.

Gentlemen:-

It would hardly be fair for me to return to France without writing something to you regarding the excellent service rendered by the Truffault-Hartford suspensions on my Darracq racer with which I won the Vanderbilt Cup race last Saturday.

Although I have always used these Truffault-Hartford shock absorbers in other contests both here and abroad, I never have really appreciated their value so much as in whipping around the short turns of the Vanderbilt course and in riding over the rough spots and railroad crossings sometimes at 100 miles an hour. Without the suspensions neither I nor my mechanic could have remained in the seat, so you can see how much they contributed toward our success in the hard journey.

Every racing car and almost every touring car in France is now equipped with these Truffault-Hartford Shock Absorbers and I am glad to learn that the same condition is growing in evidence in this country.

Yours truly,

*Louis Wagner*

## Racing Cars compelled to use them Indispensable for Touring Purposes

## YOUR CAR SHOULD BE EQUIPPED

## Hartford Suspension Company

**E. V. HARTFORD, President**

**67 VESTRY STREET, NEW YORK**

Keep Out  
of the  
Repair Shop

More automobiles are sent to the repair shops through the use of the wrong oil than from any other cause. There's an oil just suited to your engine—no matter what kind of automobile you use. The only scientifically accurate lubricant is

**VACUUM  
MOBILOIL**

Our booklet, listing every make of automobile, will tell you just what grade your engine requires. A copy will be mailed upon request. **Mobiloil** is sold by dealers everywhere—in barrels and cans of varying capacities. **MANUFACTURED BY  
VACUUM OIL CO., Rochester, N. Y.**



# Aerocar

**FACTS FROM OWNERS**

"The air-cooled proposition is the only satisfactory one."  
"Never been laid up for repairs."  
"2300 miles—15 cents for repairs."  
"A good hill climber."  
"The way our car ploughed through mud and water was a marvel."

To know more about these air-cooled cars, write us.

**The Aerocar Co., Detroit, Mich., U. S. A.**  
Member American Motor Car Manufacturers Association.

Will exhibit in New York only at Seventh Annual Auto Show, Grand Central Palace,  
December 1 to 8.

**MOTORING**  
in the Old Country  
'specially Scotland

**The Motor World**  
is Smart, Up to Date and  
Profusely Illustrated  
**Chronicles Every Movement**  
in the Trade and Sport.  
To be well informed on  
progress in Scotland,  
England, and Ireland  
read The Motor World

**Annual Subscription \$2.00**

---

---

**HAY, NISBET & CO., Limited**  
73 Dunlop Street, GLASGOW, SCOTLAND



### The Graygood Shock Absorber

Graham & Goodman, New York, are manufacturing a double-action hydraulic shock absorber that they claim will not stiffen the springs. Its basic principle is the fact that a fluid of certain specific gravity can pass through an opening of certain size up to only a certain speed. When that rate of speed is reached, no amount of pressure can increase it. The Graygood Absorber consists of a manganese bronze cylindrical chamber with a plunger of cold-rolled steel. The chamber (which is nearly filled with oil) is closed at both ends save for opening in the upper end through which the piston rod works. There is a small valve hole going through the center of the piston head and coming out at one side of the piston rod, which valve hole permits the passage of oil through the piston head and rod. As the piston works back and forth in the chamber, the oil is forced through the valve hole, first in one direction, then in the opposite. As the oil can pass through the valve hole up to only a certain speed, the plunger can be worked back and forth up to only a certain speed. Whatever strength of shock is received by the

hawk occurs in certain sections of the South in great numbers and is frequently shot wantonly or for food. The bird should everywhere and at all times be protected.

### American Methods Surprise Europeans

European automobile designers and engineers have of late taken seriously to the study of American methods of motor car manufacture. The big Ford factory at Detroit seems to be the Mecca for these investigators, especially since the fact that a four-cylinder car to be sold for \$500 was being manufactured by that concern was heralded to the world.

Expecting to find careless work, materials of indifferent quality, and consequently a lack of satisfactory results, the European invariably goes away filled with wonderment at American methods and achievements.

A good illustration of this is the recent visit of two Austrians, recent graduates of a technical school at Prague. They came with pockets full of letters from the American Consulate as well as famous engineers and titled men of their own country. They were extended the

sary tools staggers the European mind, and nothing but the large quantities, in which we in this country turn out automobiles, makes this enormous tool cost possible—and profitable.

This season marked the turning point in the tide of the automobile importation; the ebb has set in toward Europe and hereafter we will export in large quantities while the imports will as rapidly decline. We build a better, a more serviceable and more simple car in this country for \$2,500 than can be imported for twice that price.

Two of the Ford six-cylinder cars were shipped to the Ford agent at Berlin, Germany, last week. Thirty of these machines have met and conquered the German-made car on its own ground so far, and over 3,000 of the 4-cylinder Ford runabouts have already been contracted for for European markets alone.

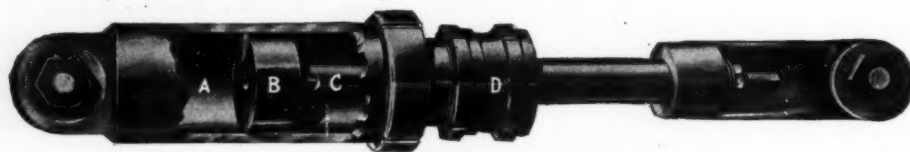
### Useful New Jersey Automobile and Motor Club

The Automobile and Motor Club of New Jersey, which opened a new club house last month, is a highly prosperous organization and deserves to be even better supported than it is. The officers arrange for club runs at frequent intervals to attractive spots in New Jersey, they hold several race meets during the year that cost the members nothing, and efforts are made to bring the members into social relationship.

But a more valuable service than all done by the club is defending the members against unjust lawsuits. A law committee is employed whose duty it is to investigate all charges brought against members of the club and to defend the assailed members if they are considered innocent of wrong doing. There are a great many persons who are ready to harass individual citizens operating automobiles when there is any probability of collecting blackmail under threats of a lawsuit with all the annoyance, abuse and loss of time which a lawsuit entails. But these people are very careful not to meddle with automobilists who have a powerful organization supporting and defending them. The club does not excuse any reckless or lawless practices, but it displays vigorous zeal in the defense of innocence.

### Underestimating Locomotives

Many mechanical engineers of spotless reputation and known to possess considerable professional ability, sometimes display lamentable ignorance of the work done by locomotive engines, and at what expenditure of steam the work is performed. The tendency of late years has



GRAYGOOD SHOCK ABSORBER

plunger in either direction, a distinct oil cushion is formed between the piston head and either end of the oil chamber. By attaching the absorber at an angle of 60 degrees it will take up horizontal as well as perpendicular shocks.

### Value of Birds to Cotton Raisers

Twenty-eight species of birds feed on the boll weevil, thirteen during the summer months, seventeen during the winter months, two both summer and winter.

The orioles prove to be the greatest destroyers of weevils in summer, and their near relatives, the blackbirds and meadow larks, in winter. Orioles, because of their bright plumage, have until recently been extensively used for millinery purposes, and thus their numbers have been much reduced. Thousands are slaughtered, not alone in the United States, but in Central America, where they pass the winter. In view of their great value as weevil destroyers every effort should be made to prevent their destruction for any purpose whatever. The same suggestion applies with almost equal force to the night hawk, which is strictly insectivorous and is shown to be an enemy of the boll weevil. During the migrations the night

courtesies of the Ford factory. One of the first acts was to draw a micrometer from the pocket and ask in broken English, accompanied by a significant smile, if there was any objection to testing the mechanical accuracy of the various parts. They were assured nothing would so please the Ford Company. After applying the "Mike" to almost every part of the motor, the Austrians announced that they had been unable to find a variation amounting to as much as one-thousandth of an inch. They were evidently astounded, and question followed question in broken English faster than the attendant could translate and answer them. After a full day spent in the Ford factory, the foreign engineers were frank to admit that no such degree of accuracy or of interchangeability of parts, as is common in American shops, was possible by the hand methods in vogue in European shops.

The "personal equation" with which the maker must reckon when workmen, however skilled, are depended upon, renders necessary considerable allowance for error. "To err is human." A machine cannot err—every part made by a good machine is exactly like every other part. The first cost of the neces-

# Lexington Hotel

JUST OFF BROADWAY ON  
47th STREET, WEST, AND LONGACRE SQUARE

NEW YORK

OPENED JAN. 1906

Absolutely  
Fireproof

Unsurpassed  
Apartments

324 Rooms with  
Private Baths

HIGH CLASS, UP-TO-DATE HOTEL

**\$1.50 PER DAY, AND UP**

European Plan

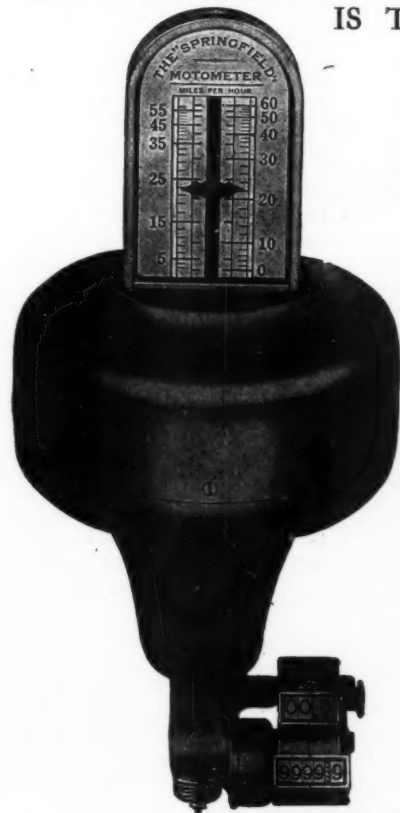
Within Five Minutes' Walk of Eight Theatres

SEND FOR SOUVENIR POSTAL CARDS

**GEO. R. JONES & SONS**



## The Springfield Motometer IS THE EASIEST



of all instruments to Read from the Seat because the Pointer takes its place on the dial and remains perfectly steady.

It instantly shows the slightest increase or decrease of speed, but neither swings nor dances around the point it is indicating, for the reason that it is directly connected to

### A GOVERNOR THAT GOVERNS

It must move exactly as the governor moves.

It is accurate and reliable because correctly constructed.

Every motion is balanced. All working parts are of steel, with hardened self-lubricating bearings.

A fine piece of mechanism which meets the approval of the mechanical experts.

It is covered by a business-like guarantee.

**The Price is Right—Fair To Us, Fair To You**

You can put in more money, but you can't buy better service. For any sized wheel and fittings for any car.

50 Mile Instrument, combining Trip and Season Odometer, \$45.00.

50 Mile Instrument, combining Trip and Season Odometer, \$50.00.

Either size, without Odometer, \$10.00 less.

WE CAN NOW MAKE  
IMMEDIATE DELIVERIES

The R. H. Smith  
Manufacturing Company  
Patentees and Manufacturers  
SPRINGFIELD, MASS.  
Est. 1865. Inc. 1883.

## MENDENHALL'S ROAD MAPS

**ROAD MAPS** Specially designed and bound in pocket form for the use of touring automobilists.

**EASTERN**—New York State, 75c.; New Jersey, 50c.; Pennsylvania, 50c.; Maryland and Delaware, 75c.  
**WESTERN**—Ohio, 25c.; S. W. Ohio, 50c.; N. Ohio, 50c.; Indiana, 50c.; So. Indiana, 25c.; N. W. Indiana (just out), 50c.; Illinois, 25c.; Michigan, 25c.; Iowa, 25c.; Missouri, 25c.; Wisconsin, 25c.; Kentucky, 50c.

C. S. MENDENHALL, Publisher, Opera Place, Cincinnati, O.



### POCKET BATTERY AMMETER

0 to 30 Amperes

In testing single cells, the cord is not necessary. Accurate.

Price \$3.50

ELDREDGE ELECTRIC MFG. CO.  
Dept. M. Springfield, Mass.

Wholesale	THE	Retail
<b>Snutsel Auto Supply COMPANY</b>		
1534 Broadway (Times Square), N. Y. City		
Everything for Electrical Ignition		
Sole Agents for B. P. U. Ignition System		
Sole Agents for Mestre & Blatge of Paris		
Accessories and Parts		
Selling Agents for N. Y. for Rushmore Lamps and Searchlights		
Import	It will pay you to inquire Write for Catalog Dept. A. M.	Domestic

	<b>STA-RITE</b> "STAYS RIGHT THE LONGEST." Sta-Rite Plugs <b>STAY RIGHT LONGER</b> than all others, because they have Double Force-lains, Non-Short circuiting air space, self-packing joints. 47 Sizes. Porcelain, \$1.80. Indestructible mica, \$1.75 Dynamos, Coils, Timers, etc. The R. E. Hardy Co., 86 Watts Street, New York City 116 Lake St., Chicago, Ill. E. J. Day & Co., Berkeley, Cal.
---	--

### Sparks That "Spark"



If you want your battery to furnish the kind of sparks that get all possible power out of your motor car or boat, install an Apple Battery Charger. A dynamo right on your car that keeps the batteries always full and ready to furnish a strong, sure current. Write to-day for full information.

THE DAYTON ELECTRICAL MANUFACTURING CO.  
170 St. Clair Street, Dayton, Ohio.

## Automobile Tops for all kinds and makes of cars

**The "NEVER RUB"**

**Bow and Top Protectors**

Will protect the bows and cloth from rubbing and wearing

SEND FOR DESCRIPTIVE CIRCULAR

**Springfield Auto Top & Upholstering Co.**

102-106 Dwight St. Springfield, Mass.

### FICKLING & CO. (Inc.)!!!

Successors to Automobile Cover & Top Mfg. Co. (Inc.)  
Estimates furnished on Limousine and Tonneau Bodies, Tops, Slip Covers, Iron and Steel Work and Upholstering. Painting of Automobiles a specialty. Eastern distributors for the Supplementary Spiral Springs and Gabriel Horns. Foster Shock-Brakes. Harroun Auto Bumpers. Telephone or write for our representative to call upon you with samples and prices. Phone 104-105 Plaza.

FICKLING & CO. (Inc.), 154 E. 57th St.

run so strongly towards subdividing engineering into specialties, that being ignorant of any branch of the profession entails no discredit; but when an engineer uses his professional standing as an assurance and guarantee that he is a reliable authority, and under that pretense gives opinions on matters he knows nothing about, he is guilty of a most reprehensible act.

The engineering world, interested in giving opinions about the locomotive, and the financial world, liable to invest in schemes for the improvement of the engine, ought to know that a well-built, properly managed locomotive is a more economical steam user than many ordinary stationary engines, and that high-class automatic or condensing engines display a very small margin of economy over a good locomotive. An engine of this kind running a passenger train that can be handled easily does the work on an expenditure of about 20 lbs. of steam per horse power per hour. The ordinary freight engine will use double or treble that amount of steam for the simple reason that freight locomotives

It is not merely that houses fetch less money when they come into market. They have become practically unsalable. The process has been impartial in its operation. It equally affects small houses in South Kensington and large ones in Portman Square or Grosvenor Place. Wherever the motor omnibus comes the resident disappears, if he can afford to leave his house unoccupied, or else lives on in it in the hope that the tyranny may some day be overpast.

Benjamin Briscoe, president of the Maxwell-Briscoe Motor Company, is away on a ten days' tour through the West, during which, it is believed, he will complete arrangements for the new western factory of the Maxwell-Briscoe Company in Indiana. The factory is to be the largest in point of ground floor space in the world, and will be so equipped that a Maxwell machine can be turned out ready for testing every fifteen minutes in the day. The Maxwell-Briscoe Company will also pay considerable attention next

Then the policeman tried a new trick. He complained that he had seen the number of the machine hanging on another automobile and insinuated that among ten or a dozen machines operating from one garage perhaps only one or two licenses are used, and are tacked on to the first machine out of the shop. In view of the trifling cost of a license this latest claim is rather far fetched. We are well informed that in the Darraq's and other large establishments many licenses are taken out that are seldom or ever used more than a few weeks, the cars numbered and licensed being shipped rapidly to other States where another license has to be procured.

#### Annual Dinner of Automobile Club of America

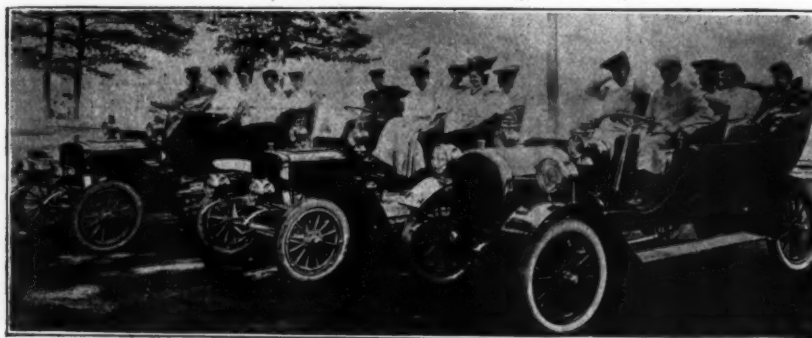
In accordance with its custom, the annual dinner of the Automobile Club of America will be given on the last night of its seventh annual automobile show in New York, which will be held this year at Grand Central Palace, opening on December 1. It is expected that with the thousands of automobile tradesmen and sportsmen here from all over the country, to visit the big show and to inspect the club's new club house, there will be a record number of diners at Sherry's to hear automobile topics discussed seriously and humorously.

#### Southworth Takes the Pope New York Branch

The Pope Manufacturing Company's New York branch has been bought by the A. G. Southworth Co., Brooklyn representative of the Pope Company. The Boston and Washington branches were also sold recently. In the future the Pope concern will not act as distributing agent, but will manufacture the various Pope cars, all of which will be sold through agents. Elliot F. Mason, who has been with the Pope people twenty-seven years, has retired. John W. Sutton is president of the A. G. Southworth Co. and A. G. Southworth is general manager.

The Greene Motor Car Co. have opened a branch in Montclair. The new place is a large double store with plenty of room for the business this company has in that section. It is located at 654-658 Bloomfield avenue, and will be used as a showroom and garage for the storage of cars of patrons.

Following the Vanderbilt Cup Race, many of the fashionable Long Island people went in auto parties to the North Shore Horse Show, at Locust Valley, L. I., which ran in competition with the cup race, as it were.



NORTHERN AT PORT HURON. "IN THE GOOD OLD SUMMER TIME"

are habitually overloaded and must let the steam follow the piston so far at full pressure that the terminal pressure is necessarily very high. Passenger locomotives with which it is hard to make running time and which have to be forced rapidly into speed after frequent stoppages, will use nearly as much steam per horse power as the freight engine. The fact that a locomotive is using twice the steam which ought to be required in order to do the work, is really no reflection upon the engine, but generally is the fault of overloading, a condition that will deprive any class of steam engines of an economical record.

#### Effects of the Motor Bus on Real Estate

What the public think of the noise which the motor omnibuses make is shown by the effect it has had upon the value of house property along their routes, says a London paper. The decline has been general, and in many cases it has been extraordinarily great.

year to the construction of commercial vehicles.

The Tri-State Automobile and Sporting Goods Association of Michigan will hold their sixth annual automobile show at the Light Guard Armory, Detroit, from the 11th to the 16th of February next.

#### Auto Licenses

The police are having their hands full of automobile business in the upper west side of New York. So many arrests have been made and so many dismissals that the wielders of the night-stick are getting exasperated. If a chauffeur is lucky enough to get off in court, the police have their eye on him, and will have him again soon. Mr. Gaston Samuels, a chauffeur for the Darraq Automobile Co., was arrested for speeding on upper Broadway. He had Mr. Louis Wagner, winner of the Automobile Cup, with him at the time. The case was dismissed for lack of evidence.



# *The "Maxwell"*

## **4 Cars, One Doctrine 1 Result—Satisfaction**

Only three seasons old, but stands second in number of cars sold during the past year in America. No more could be sold, because no more could be made.

Could there be any better proof of Maxwell popularity than this? Could there be any better proof of Maxwell quality than such popularity?

### *Ask a Maxwell Owner*

*Send for Catalog and Book of Testimony, Dept. 9*

## **Maxwell-Briscoe Motor Company**

Palmer Avenue, Tarrytown, N. Y.

PAWTUCKET, R. I.

General Offices and Main Plant:

TARRYTOWN, N. Y.

CHICAGO, ILL.

#### BRANCHES:

Maxwell-Briscoe, Inc., New York, N. Y.  
Maxwell-Briscoe-Chase Co., Chicago, Ill.  
Fisher Automobile Co., Indianapolis, Ind.

Maxwell-Briscoe-Boston Co., Boston, Mass.  
Maxwell-Briscoe-McLeod Co., Detroit, Mich.

Maxwell-Briscoe-Buffalo Co., Buffalo, N. Y.  
J. W. Willcox & Son, Los Angeles, Cal.  
Richard Irvin & Co., New York City



**THE MAXWELL 4-CYLINDER—Winner of the Deming Trophy in the Glidden Tour**

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.

## Patent Office Department

Our Patent Office Reports present a brief epitome of the most notable improvements in automobile mechanism from month to month. Our descriptions are necessarily short, but readers interested in any particular invention can have full details forwarded by applying to the Patent Office at Washington, D. C.

As will be seen from our selections from the Patent Office Department reports, there are a number of new devices calculated to hold the rubber tires in position on the rim of the wheels. The two devices shown on this page are both very reliable and are worthy of the consideration of manufacturers. It is a matter of much regret among inventors generally that the work of the Department is nearly a year behind, so that an applicant for a patent must wait many months before his invention can be submitted to the consideration of the public.

### Tire Device

A new removable-tire device consists of a combination of a wheel having a felly provided with recesses having nuts therein with threaded bores registering with the bores in the felly. On the felly is a permanent tire with bores registering with the recesses in



the felly and nuts. On this tire is a removable rim having recesses in its under face, and a ring adapted to abut against the permanent tire and set screws adapted to be adjusted through registering bores, into and out of engagement with the rim. Patented by John C. Schleicher, Mount Vernon, N. Y. No. 831,632.

### Explosive Engine

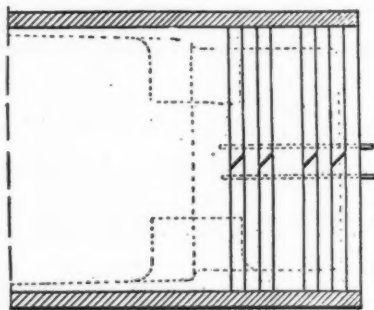
An explosive engine has been patented by Mr. Frank A. Jahn, Davenport,



Iowa. The combination with a crank shaft and the exhaust valve of an explosive engine, of a lever for operating the valve, a rotatable member carried by the lever and having radial arms, and a trip carried by the crank shaft and arranged to bear on the outer ends of the arms to tilt the lever and open the exhaust valve. No. 831,286.

### Grinding Piston Rings

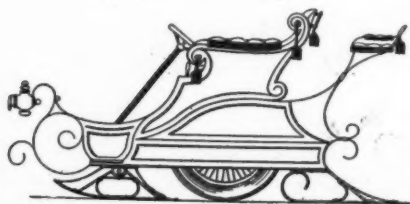
A method of simultaneously grinding a piston and its packing rings, consisting in centering and fixing said rings in their places on the piston, with their



surfaces flush with the surface of the piston, and holding the rings in an unyielding position during the grinding operation, has been patented by Mr. Paul Gaeth, Cleveland, O. No. 831,351.

### Automobile Sleigh

A patent has been secured on an auto sleigh by Bernhard Beskow, of San Francisco. It consists of a sleigh frame, provided with bolsters and runners thereon, with means for



swinging the bolsters in unison to guide the sleigh. A platform is pivotally secured at forward end of frame and provided with an opening with a driving wheel mounted vertically therein. A motor is secured on the platform for actuating said wheel. No. 831,820.

### Wheel Rim

A rim invented by Frank A. Wilcox, Akron, O., consists of a rim including a web portion and a discontinuous removable flange, a tongue formed on the flange and a corresponding groove formed on said web portion, notches formed in the tongue and a correspond-

ing groove formed on web portion, notches in tongue of flange adjacent to opposite ends thereof with outer faces



inclined, and correspondingly shaped detents formed in the groove and means for securing the parts, substantially as described. No. 831,586.

### The Grand Lama of Tashi Lhumpo to Motor

The motor car, like Sapolio, is getting to be one of the world's great civilizers. Now the sheepish Grand Lama of Tashi Lhumpo, in forbidden Tibet, wants a "devil wagon"—an 80-H. P. one, at that. A remarkable feature of this High Tum-Tum's ambition is that cart roads and carts are unknown in that part of the Tibetan Plateau, and for this reason the Grand Lama will have a road built from his monastery to Cyantse, where there is a new British road. The car will be delivered at Calcutta, India, and shipped by rail to Darjeeling in pieces, where it will be loaded on the backs of coolies. The latter will be obliged to carry the parts over frozen mountain passes, some of which are 14,500 feet high. The auto will be assembled when it reaches the Chums Valley, wherever that is, and driven under its own power to Cyantse, which is around there somewhere, several miles from the valley. After the potentate has been hit under the chin by a balky cranking rod a few times, and learned that a car can skid down hill sideways, it is said that he will not be satisfied until he hugs triumphantly into the sacred city of Lhasa, provided he can build a road to it. However, it ought to give great joy to the Tashi Lama to rest assured that he cannot be arrested for exceeding a speed limit.

Instructions from the Post Office Department have been received by Postmaster J. H. Harris, of Kansas City, Mo., to advertise for bids for the use of two automobiles and drivers, to serve four years. The Post Office Department does not intend to purchase the cars, but merely to rent them to collect mail. The automobiles will take the place of four wagons now in use. Several of the local dealers have announced their intention of competing for the contract.

## A tire locked to the rim as is A FISK TIRE

represents a Life Preserving Principle, and  
Reduces Tire Maintenance to an Economic  
Basis.

Beads of a wedge shape are applied  
to a flat rim and held by rings  
which are rolled on an angle  
corresponding to that of the  
bead, so that when drawn down  
by clamping bolts, the bead acts  
as an inside cone wedge, with the  
result that the tire is firmly held to  
the rim, without air pressure or circum-  
ferential contraction.

Such a construction should readily appeal  
to any discriminating buyer.

Write for further particulars in printed form.

**THE FISK RUBBER COMPANY,**  
Chicopee Falls, Mass.



# WORLD'S RECORD FOR TOURING CARS THE MATHESON

**T**OM COOPER, driving this great American car, a touring car carrying seven passengers, drove a measured mile in 0:50 1-5 (71 miles an hour), official time, Atlantic City, Sept. 5, 1906.

OTHERS advertised that a mile a minute was possible while carrying 7 passengers in a touring car. It was left to **THE MATHESON** to actually prove the assertion. **THE MATHESON** went the other fellow's prediction one better by covering the mile in 0:50 1-5 seconds.

## The-seven-passenger-seventy-miles-an-hour Touring Car

### IMMEDIATE DELIVERIES

40-45 H. P., \$6,000

60-65 H. P., \$7,500

Runabouts, 40-45 H. P., \$4,500

Licensed under Selden Patent

**THE MATHESON COMPANY OF N. Y., 1619 Broadway**



### De Luxe Motor Car Co.

The De Luxe Motor Car Co., of Toledo, that have been looking for a Detroit location for some time past, have been successful and are now in possession of the C. H. Blomstorm Co.'s plant, having absorbed the makers of the "Queen" automobiles. The factory is located on River street and has every facility for the manufacturing of first-class cars. It is understood that the plant will employ 1,000 men.

N. M. Kaufman, of Detroit, has been elected president of the reorganized De Luxe Motor Car Co. The other officers and directors are: George M. Verity, American Rolling Mills, Middletown, O., vice-president; F. M. Keeton, Toledo, secretary; D. W. Kaufman, Detroit, treasurer; W. H. Morgan, Morgan

of the former rate of one and one-half cents per mile for all automobiles. The board of directors claim that this action was necessitated on account of the damage to the road surfaces by automobiles.

### The "P. and S." Rack

A new baggage rack has been placed on the market by Pedrick & Smith, of Germantown, Pa., known as the "P. & S." It is made entirely of pressed steel finished in black enamel. It is made to fit the different standard makes of touring cars and runabouts, the different makes and models necessitating a slight difference in dimensions. It is put on so that it will not interfere with getting at the working parts of the machine when



CAR WITH "P. & S." RACK ATTACHED.

Engineering Works, Alliance, O.; Henry E. King, Toledo; Frederick W. Whiting, Detroit.

### Assuming Tyrannical Authority

It is amusing to notice the self-important methods that self-constituted country officials have of putting annoying impositions upon automobilists without authority of the law. A company which controls the road toll gates in Virginia exercises despotic power over automobiles that ought to make the blood of every Virginian boil in his veins.

Now we hear of the doings of another despotic company in Pennsylvania, the Chester and Darby Telford Road Company, which have issued orders to toll gate keepers to charge two cents a mile for two-seated automobiles and three cents a mile for four-seated cars, instead

in use. When not in use, it can be folded up. The rack is light in weight, rack and straps weighing but 10 pounds. It in no way disfigures the car but rather adds to its beauty and it certainly adds to its comfort.

### Too Great a Risk

He desired to take out a life policy for \$50,000.

Smiling eagerly, the agent drew forth the blank form and began the usual series of questions.

"Query six," he said at length—"are you an automobilist?"

"No," was the ready rejoinder, "I am not."

"Motor cyclist, perhaps?"

"No." The agent, with a sigh, laid down his pen. "I am sorry," he said, "but we no longer insure pedestrians." —Minneapolis Journal.

### A Board of Fabricators

The Massachusetts Highway Commissioners are asking that an annual tax be imposed upon automobilists to pay for extra road repairs entailed by heavy motor cars speeding over the highways. They estimate that \$50,000 extra will be needed to repair the damage done by automobiles.

The Massachusetts Highway Commissioners are a set of brazen liars or they do not understand the kind of vehicles that inflict damage upon roads. A rubber tired automobile does less damage than any vehicle of its weight. The road destroying vehicle is the heavily loaded wagon with narrow iron tires. Those who have given the maintenance of public highways intelligent study hold that a heavily loaded coal wagon damages a road more in one trip than an automobile does in one hundred journeys.

### Inferno

I want to wind up with a tire on my collar,  
To face a repair bill that takes my last dollar;  
I want to go smash in the smashest of smashes—  
To end in the worst of all death-daring dashes;  
To fly in the air and come down in the stubble.  
Commingled with all of my automobubble,  
Mixed up and mixed in and securely entangled  
With all the machinery and hopelessly mangled,  
The Gabriel horn in a twist beyond tooting,  
The wheels past all chances of skidding or scooting.  
Oh, let me go out in my automobubble,  
My automobubbly—wibbly-wobble,  
With honkety-honkety-honkety-bang!  
And sizzlety-fizzlety-whizzlety-whang!  
My automobipper—

My automozipper—  
Ker-smash!

—St. Louis Republic.

The food of the swallow consists entirely of insects, and the number of these one bird will destroy in a single summer is incalculable. They are in summer on the wing for fully sixteen hours during the day, and the greater part of the time making havoc among the millions of insects which infest the air. The swallow ought to be encouraged. Motorists are much interested in the destruction of eye-filling insects.

The greatest life is that which has been the most useful, and has been able to perform its allotted tasks cheerfully and well.

## GRAYGOOD HYDRAULIC (Double-Acting) AUTOMOBILE SHOCK-ABSORBER

(Formerly the "American")

Mfd. under Patents  
of J. E. Smith



The only  
real shock-  
absorber  
for all auto-  
mobiles.

As attached to  
half-elliptic  
spring

Does not stiffen springs nor require readjusting.  
Sold by all garages and dealers on a 30-days-trial-  
money-back guarantee. Write for free booklet to-day.

**GRAHAM & GOODMAN, Sole Mfrs.**  
61 W. 93d Street, New York

### ALUMINUM BODIES

**J. M. QUINBY & CO.**

EST. 1834

Carriage Builders. NEWARK, N. J.

## W. E. B. SPARK PLUG

Manufactured by

**Arc-Spark Mfg. Co.**

125 W. 32d Street  
NEW YORK

Standard—\$1.50—Metric

Write for  
"The Man a-Motoring"

### The IGNITION PROBLEM is SOLVED in the "Lacoste" High Tension Magneto for Jump Spark Ignition

We guarantee this device to be ABSOLUTELY PER-  
FECT. We have done the experimenting.

NO BATTERIES. NO COIL. NO COMMUTATOR.  
Everything for Electrical Ignition.

LEON RUBAY, Sole U. S. Agt., 140 W. 35th St., N. Y.

### WE ARE THE OLDEST

**Automobile House in the U. S.**

Exceptional bargains in second-hand Packard  
Winton gasoline cars, Waverly, Columbia elec-  
trics. Write us.

**Rochester Automobile Company**  
JOS. J. MANDERY, Prop. Rochester, N. Y.

# SERVES YOU RIGHT!

FROM START TO FINISH

Nothing but Real Merit has  
made the **SPLITDORF COIL**  
the standard of the world

**C. F. SPLITDORF**

17-23 Vandewater St.

New York

Ask  
Dept. C  
for  
Catalog



**THERE'S A WORLD OF DIFFERENCE!**



## CARTERCAR "THE CAR AHEAD"



The Carter patented system of friction transmission used in  
these cars is guaranteed the simplest, most durable and powerful  
in use. One lever controls all speeds forward and back. Three  
years in actual use.



No gear-to-strip, no clutch to slip,  
will hold on any hill.

Catalogue free.

**MOTORCAR CO. DETROIT, MICH.**

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.

### Auto Fair at Danbury, Conn.

October 2 made folks ride a jackomobile to Danbury Cross to see a fine carnival. There was a motor car parade, followed by motor car races and a dog show. In the latter, Mrs. George J. Gould, of New York, and Richard Croker, Jr., won several prizes.

The result of the competition of the decorated automobiles was as follows: Floral decorations, first, Dr. W. C. Wile; second, Mrs. J. N. Cuneo, Roslyn, L. I.; third, Charles Gilbert, Stepney; fourth, M. Burton Rogers; artificial decorations, first, Alexander S. McLean; second, John W. Green, Jr.; third, Charles H. Peix, Jr.; fourth, S. H. Rundle. The result of the first gymkhana race was as follows: First, C. H. Stickles, Bridgeport, Thomas Flyer; second, Samuel Graham, Greenwich, Pierce Arrow; third, Samuel Ryder, Danbury, White Steamer; time, 4.51¾. Second race, first, Samuel Ryder, Danbury; second, C. H. Stickles, Bridgeport; third, P. M. Bliss, Danbury. Third race, three-mile match, first, Samuel Graham, Greenwich; second, C. H. Stickles, Bridgeport; time, 5.05½.

### Use the Rod

A regulation of the public school administration of Baltimore requires that notice shall, from time to time, be given the parents of any pupils whose eyesight needs attention.

In one case, relates the Success Magazine, the teacher of a primary school, in the poorer quarter of the city, had written the father of one pupil this note:

"Dear Sir: It is my duty, under the regulations, to advise you that your son, Thomas Blank, shows unmistakable signs of astigmatism. The case should receive immediate attention."

In reply the teacher received a note from the father in these laconic terms:

"Lick it out of him. Very truly,  
"Charles Blank."

### An Ecclesiastical Hat

A milliner who works in a large city says that one day a woman came into the store very much excited, and wanted the trimming on her new hat changed. She said that it had been trimmed on the wrong side.

"But," said the saleswoman, "the trimming is on the left side. That is where it ought to be."

"It doesn't make any difference whether it ought to be in front or back, or right or left, it's got to be on the church side."

"Church side!" gasped the astonished girl.

"Yes, church side. I sit right next the wall in church, and I'm not going to have all that trimming next the wall. I want

it on the other side, so the whole congregation can see it."

The trimming was promptly placed on the "church side" of the hat.—Youth's Companion.

### The "Unique" Automobile

The following are a few facts concerning C. B. Hatfield's invention, which he calls the "Unique" auto. It has remarkably few parts and looks like an ordinary buggy with a steering wheel in the center. Its motive power is a two-cylinder gasoline engine (waterless) under the seat. There is no clutch or other disconnecting device between the engine and wheels on the rear axle. The latter is not divided and has no box of differential gears and no friction clutches. There are no foot levers other than the brake. The car is operated by a lever on the steering shaft, which when extended directly to the right, keeps the friction driven wheel that propels the auto in the center of a friction disk on the end of the crank shaft. In this position the car is at rest because the



THE "UNIQUE" AUTOMOBILE

friction driven wheel is pressing on a patented "floating rest" which rides upon balls in the center of the friction disk. But when the shifting lever is moved forward or backward, the car moves correspondingly. There are ten speeds forward and three rearward. The engine starts from the seat. The entire weight of the auto is less than 600 pounds and the machine will sell for about \$500.

### Lieut. Lahm Wins Sky Race.

It is gratifying to note that the international balloon race, held in France on October 1, was won by an American. Lieut. Frank P. Lahm, of the Sixth Cavalry, U. S. A., who is an instructor in cavalry practice at West Point, landed his balloon, "United States," at Flyngdale, near Hull, England, after being in the air twenty-three hours. The distance covered was 415 miles. He was four hours in crossing the English Channel. Lieutenant Lahm and M. Santos Dumont represented the Aero

Club of America. Santos Dumont met with an accident, and was obliged to descend. His arm was caught in the motor mechanism and the flesh badly lacerated. Lieutenant Lahm was accompanied by Charles Lève, a member of the Aero Club of America.

Second in the race was Signor Vonwiller, of Italy, with the balloon "Elfe." Count de La Vaux, of France, was third with his balloon, "Walhalla."

Five of the sixteen starters landed during the night along the coast of Normandy. Santos Dumont's two "Americas" descended near Brogile; Captain Abercron's "Dusseldorf" at Villers-sur-Mer; Lieutenant Herara's "Ayaway" between Cabourg and Dives-sur-Mer; Baron von Hevold's "Potmern" at Pont Ademer; Senor Salamanca's "Norte" at Blouville, near Villers-sur-Mer, and F. H. Butler's "City of London" at Blouville. M. Van Den Driesche's balloon, "Pjouki," landed at Bretigny. Professor Huntington, one of the English contestants, in his "Zephyr," dropped at Sittingborne, Kent.

On October 10 the Exhibition Committee, of the Licensed Automobile Manufacturers, gave a luncheon to the staff of Madison Square Garden, where they hold their annual show. The members of the committee were: Col. George Pope, chairman; Marcus I. Brock, M. L. Downs and C. R. Mabley.

### Performance of the Frayer-Miller Cars

We are informed that the purpose of the Frayer-Miller people in building cars to compete in the Vanderbilt Cup race was for the purpose of demonstrating that an air-cooled car was capable of maintaining the high power necessary in a long, fast race. Although they did not win the race, they are satisfied with the performance they achieved. On this subject, F. E. Moscovics says:

"We feel that we have accomplished everything that we started out to do, that is, demonstrate that by our system of cooling we could cool engines of almost unlimited cylinder dimension and area and cool them perfectly. We feel that for practical purpose such large motors were unnecessary; we might have obtained better results from smaller ones, but we wanted once for all to demonstrate that our system of cooling could take care of engines of any size. This was demonstrated both in the elimination and in the cup races, on both of which occasions the times of our car compared favorably with those of the fastest cars in the world. Our car in training scored the fastest round that had been scored, by doing a lap in 25 minutes and 30 seconds."



**THE FORD LINE FOR 1907** will consist of the "Successful Six" and the world famous 4-cylinder runabout.

**THERE WILL BE NO CHANGE** in the design or construction of the runabout—it is years ahead of the times as it is. Nor will the price be changed, despite rumors to the contrary.

**REFINEMENT OF DETAILS** and such slight improvements as a season's careful observation of the performance of 400 of the Model "K" six-cylinder touring cars will constitute the only difference between the 1906 and next season's car of this type.

**20 PER CENT. MORE POWER**—but we still call it 40; ground cylinders, higher compression and other refinements obtain the increase; 25 per cent. more radiator capacity is added to take care of it; heavier frame to compensate for increased wheel base—120 inches now. Chrome-nickel steel for all shafts, gears, etc.; fenders enclosed full length of car; 8-unit positive oiler—same as this season, but more of it.

**THE DOUBLE IGNITION SYSTEM**, which proved so satisfactory this season, is retained—it has been copied by many who at first criticised the double-row-of-plugs feature. There must be a good reason. We honestly believe the high tension magneto we use is the best in the world—it has been brought to a state as nearly perfection as it is possible to attain.

**THE BODY DESIGN** is of the latest and most approved tonneau type—big enough for seven if you like, beautifully finished, luxuriously upholstered. In short, the Ford Model "K" for 1907 constitutes more car, more quality, more speed, more endurance and more reliability than any other in the world for less than \$5,000.

**BEST OF ALL**—practically every part of the 1906 and 1907 Models are interchangeable with each other. That means dollars to the buyers of both models.

**INCREASED COST OF MATERIALS**—and the fact that there never was a fair margin of profit in the six-cylinder model—make an increase of price necessary—1907 Model "K" is \$2,800.

---

# FORD MOTOR COMPANY

DETROIT, MICH.

---

Member American Motor Car Manufacturers' Association

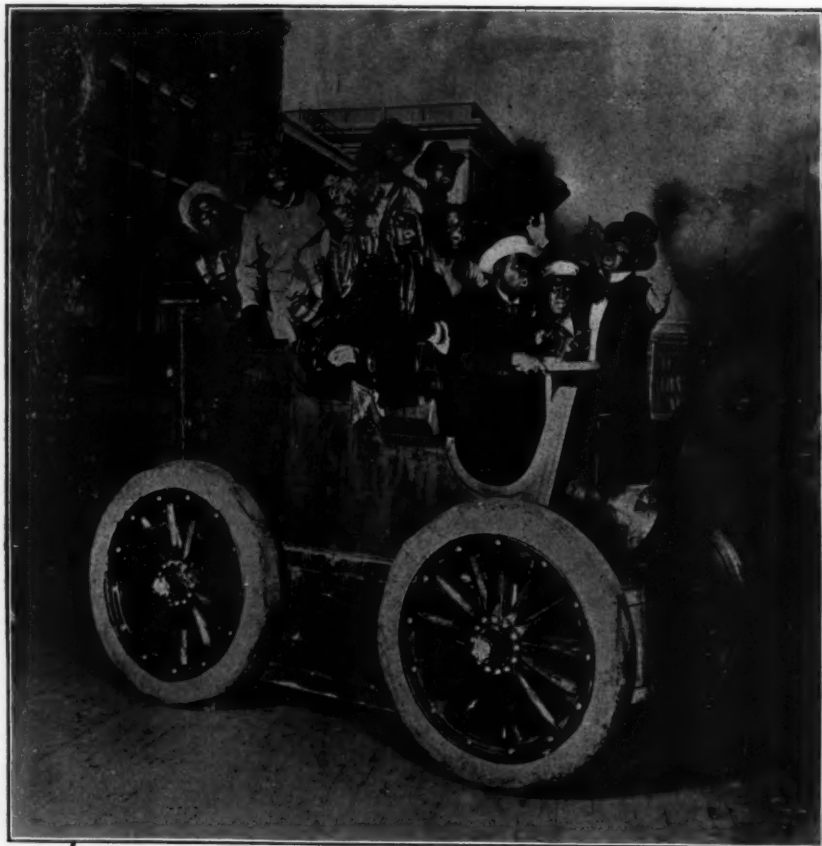
✧ ✧ ✧ BRANCHES ✧ ✧ ✧

147-149-151-153 Columbus Ave., BOSTON    1721-23 Broadway, NEW YORK    727 Main St., BUFFALO    1444 Michigan Ave., CHICAGO  
Broad and Buttonwood Sts., PHILADELPHIA    1913 S. E. Euclid Ave., CLEVELAND    318-320 E. 11th St., KANSAS CITY  
CANADIAN TRADE supplied by Ford Motor Company of Canada, Ltd., Walkerville, Ont.

## The Foolish Side of Motoring.

### Motoring a la Burnt Cork

Lew Dockstader is another one of those who recognize the possibilities of the low comedy property auto. The car in which he and his minstrels are sight-seeing is undoubtedly a fine machine. One detail in particular is a brilliant high candle power dishpan searchlight which attracts wide attention. When this



ONE OF THE INDIGNITIES TO WHICH THE AUTO IS SUBJECT—LEW DOCKSTADER AND PARTY "SEEING NEW YORK" IN A BURLESQUE MOTOR CAR

Photo by White

picture was snapped Mr. Dockstader was warning his flock that the management would not be responsible for hats, coats, pocketbooks, umbrellas or gum shoes while passing through Wall street.

### Special Inducement

Miss Dashaway: I don't care to go automobiling, it isn't exciting enough.

Mr. Scorcher: I think you'd enjoy a ride with my new chauffeur. He knows absolutely nothing of automobiles, having just escaped from the asylum for the criminally insane.—Life.

### George, Still Ade-ing the Cause of Motoring

We hear that George Ade, the playwright-author-humorist, is able to tour once again. He says that after some overhauling his "carbureter will carburet some more." Incidentally he has stopped talking to garage employees in epigrams. His cute little order to a green chauffeur to "fill up the transmission case and put a little oil in the engine base," nearly cost him his Ford car, life and other things. It seems that the new garage hand tried to do what he was told and squirted about 4 gallons of thick "dope" oil into the en-

### A New Version

"Even the monks of St. Bernard have succumbed to the progress of mechanical science, and have thoughtfully arranged a motor car service from the valley to their hospice."

The shades of night were falling fast,  
As through the Alpine village passed  
A blaze of light, a noise, a smell;  
Men said: "That's Brother Gabriel  
'N his motor car!"

"Oh, stay," the tourist maiden cried,  
"I'd love to have you let me ride!  
Pop's chauffeur, way back home, 's a  
flyer,  
But what I want's a holy friar  
'N a motor car."

"Drive not so fast," the old man said,  
"There's a police trap on ahead!"  
The friar dashed on, out of sight;  
Back came the scent, from up the height,  
'F a motor car.

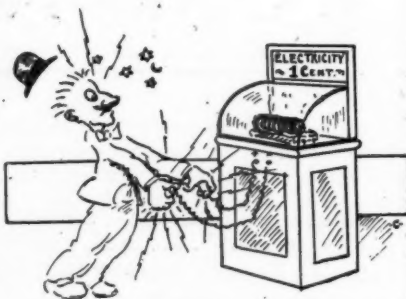
Onward he flew, and ever higher,  
Until an ice chip tore his tire,  
Or things began to break, or bend,  
And Brother Gabriel had to mend  
His motor car.

His brow was sad! The car beneath  
He crawled; and muttered, 'tween his  
teeth,  
Words that a friar should never know,  
He (for example) murmured: "Blow  
The motor car!"

Next morn he, by the faithful hound,  
Half buried in the snow was found,  
Still grasping in his hand of ice  
A spanner, gripping like a vise  
His motor car.

Tenderly back his brothers bore,  
And thawed him, to "mote" nevermore;  
And, from the mountain's icy crown,  
A team of dogs towed tamely down  
The motor car!

—Philadelphia (Pa.) Telegraph.

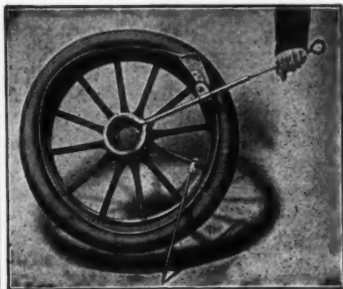


A "SHOCK ABSORBER"

gine with the result that when Ade began to crank and sweat and cuss at and "nurse" the engine, he got a "home edition of Vesuvius" handed to him. The thing sputtered, choked and belched forth such volumes of thick smoke that everyone, including Ade, had to flee, and the Brookville, Ind., fire department was called out. When the latter arrived they played a hose on the feverish car and bye and bye it stopped its fireworks. We cannot print all that Ade said, but among other things he remarked to J. W. Cline, the Ford agent, that the garage boy could be trusted to deliver chunks of dynamite to his sweetheart in place of marshmallows.

## OUR TIRE ADJUSTERS WILL PUT ON OR TAKE OFF ANY TIRE

The "MINUTE" ADJUSTER



For CLINCHER TIRES

In from One to Five Minutes  
**WITHOUT EXERTION**

The "Minute" clincher tire adjuster is true to its name. It will actually take off or put on the **heaviest clincher tire in one minute** without injury to the shoe or inner tube and may be easily operated by a woman or child.

The "L. & M." Ring tire adjuster is the only ring tire adjuster on the market.

It consists of six tools which are slipped over the tire at intervals, and by turning crank, the tire is forced back from the ring all the way around, thus enabling you to put on or take off the ring with ease.

Both adjusters are absolutely guaranteed.

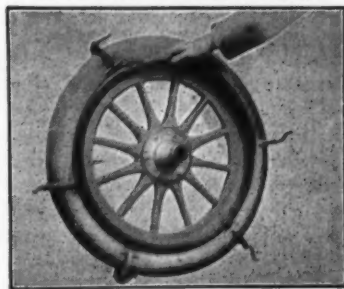
Write to-day stating kind of tire you use, and we will send you illustrated booklet and price list. Patents applied for.

**LONG & MANN COMPANY**

520 Central Building,

Rochester, N. Y.

The "L. &amp; M." ADJUSTER



For RING TIRES

# C

# ONTINENTAL

To get the best service out of the best tire made, use **CONTINENTAL** tires on your car and be sure that the **SIZE** of the tires corresponds with the **WEIGHT** of your car.

**THE CONTINENTAL CAOUTCHOUC CO.**

WILLY TISCHBEIN, President

43 WARREN STREET  
NEW YORK



FACTORY: HANOVER  
GERMANY

Indicated time 10:34 o'clock.



## THE BULLARD SPEED-RECORDER

When the Driver and the Officer meet, and one has a Bullard and the other a stop-watch, there will be no dispute.

See those dots showing the beginning of a run at the rate of fifteen miles per hour.

The stop-watch is the only recognized instrument for recording race-track speed. The Bullard is the only reliable instrument operated in the same manner, making a permanent record on a card from any movement of the car to two miles per minute.

If within the limit the driver cheerfully compares his record-card with the stop-watch, and needs no other witness. If otherwise he must pay the penalty.

We do not present a tag with the Bullard to assure the officer that the driver knows his speed. The card talks. *Send for booklet.*

**J. H. BULLARD & SON, SPRINGFIELD, MASS.**

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.



### Increasing Importance of the Autotruck

Editor AUTOMOBILE MAGAZINE:

The automobile industry has now become a subject of interest for the practical, enterprising business men of America. With this class of people the heavy commercial vehicles are often a matter of more careful study than the more numerous types of pleasure or speed automobiles. Many of these men own or manage enterprises which require tens or even hundreds of horse-drawn wagons in constant service. Prominent among them are proprietors and managers of wholesale drygoods establishments and department stores, wholesale and retail coal dealers, furniture manufacturers and movers, caterers, owners of laundries and so on indefinitely down the list of any commercial directory.

types and models. The idea of each is to find out what kind, power and make of automobile is best suited for his special use.

The writer of these lines knows one of the foremost coal merchants of the city of New York, who has been experimenting in an incidental way with motor trucks for several years past. This man has been laughed at by some of his less progressive competitors, and truth to tell, he already has something akin to a private automobile scrap-heap. Notwithstanding all this he has persevered, and instead of spending his 1906 vacation at the seashore or in the mountains, he is making a European trip, most of which he will spend in investigating the motor-driven vehicles of England and the Continent. His personal enthusiasm in this direction would put to shame

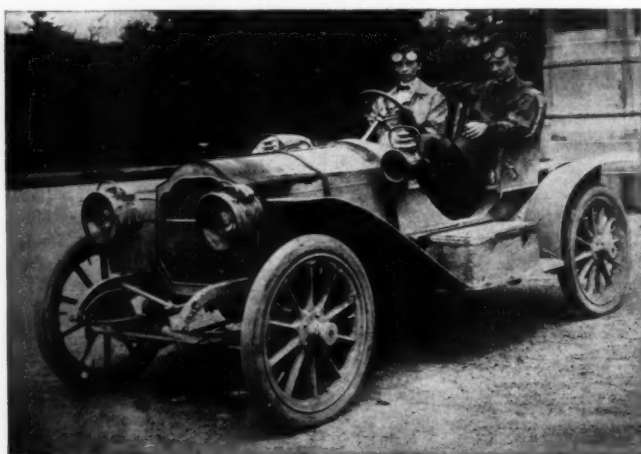
fic that railways were originally projected—the growth of freight carriage has been still greater. But urban freight traffic is destined to reach a larger volume than the passenger traffic, just as has been the case on the steam railways, and the investigator who fails to take this fact into consideration will find that he has made a mistake.

The question of passenger and freight transportation on rails and on water, over long distances, is being gradually solved, and that on a basis whose "per ton mile" is so small as to be practically infinitesimal. Notwithstanding the large progress here, nothing of moment has been accomplished for a thousand years in the purely local transportation of heavy commodities. Here the cost "for ton mile" is often from ten to twenty times as great as on rails or on water. It is to relieve this condition, and to provide modern methods to local as well as long haulage, that the auto truck has come.

Already the idea of trolley cars for hauling freight through city streets has been discussed, but the drawback to such a service is that the local freight business is such that it cannot be confined to fixed routes, but vehicles must be free to run at large on the highways. It is not a question of supplying the customary truck or express wagon with equipment for rendering the same service at a lower cost. There has come a demand for a service for the transportation of freight on city streets which the horse is incapable of rendering. The capacity of the horse is now just what it was a thousand years ago, while the need for larger capacity has grown with the progress of civilization. There must now come a motive power capable of drawing heavier loads and of drawing them at a higher rate of speed.

Retail trade in many lines has become concentrated in a comparatively few great stores, instead of many small stores wherever buyers were to be found. The aim of all these establishments is to serve the needs of not only the city, but also of the suburbs and the country. Already the tendency of these large concerns is to place their resources as nearly as possible at the door of every citizen, not only through the prompt delivery of goods actually bought in the stores, but also in the collection of orders from house to house for later delivery.

The development of this system is adding continually to the convenience of suburban residence, and nothing seems likely to give it such further impetus as the motor driven vehicle, with its higher rate of speed, its tire-



RUSSELL HUFF AND RALPH ESTEP IN PACKARD RUNABOUT

The aggregate investments of these men and firms in delivery equipments amount to millions of dollars every year, and this is all closely identified with the routine of the business in which each merchant is engaged. They are the wide-awake, enterprising men of the times; prove to them the advantage of new ways and means over old ways and means, and there is literally no limit to the amount of business you can do with them. Like the native Missourians, they have to be "shown," and, if you "make good," they are with you. To get the definite interest of such people is a great advantage to any industry, and that point has already been reached by the automobile builders.

The change from horse-drawn to motor-driven commercial vehicles is a matter of very serious import to thousands of these business men. For that reason they have been studying the heavy cars for two or three years past with the same close interest as does the physician the lighter, all-year

the enthusiasm of a lot of people more directly connected with this industry.

It is all a question of ultimate economy in transportation. The modern business man's thought and experience embrace a wide range. Above all other things it is essential to know the exact present and ultimate cost of each item—whether construction, transportation or repairs—down to the fraction of a cent. Present methods are the result of changes brought about largely within our own time. There are yet people living in Chicago who can remember when the stocks of goods kept in the stores there arrived in wagons from older and distant commercial centers. But the "goods wagon," which formerly lumbered across broad States, for which a ton was a heavy load, has been superseded by fast trains, some of them composed of steel cars capable of carrying 100,000 pounds.

Great as has been the growth of the passenger traffic on American railways—and it was chiefly for such traf-

# TRACTION TREAD TIRES

**Require no  
Guarantee**

If you can show us a fault in the quality or construction of our tires we will make good without a question.

**3,500 IN USE AND ONLY  
TWO PUNCTURES REPORTED**

**Now Ready in Large Sizes  
Our New 1907 Model**

This is the most perfect pneumatic tire ever made and will positively last longer than two of any other make

**IT IS THE BEST IN THE WORLD  
AND WE CAN PROVE IT**

**TRACTION TREAD TIRES**

1695 Broadway, (Telephone, 816 Columbus) NEW YORK



## HOTEL EUCLID

Euclid Avenue

*Cleveland's Newest Hotel*



**EUROPEAN**

**Rates \$1.00 and Up.**

**300 Rooms.**

**Hot and Cold Water  
in All Rooms.**

**FRED S. AVERY, President**

lessness and a mileage capacity from three to five times that of the best team and wagon. The field for the use of motor cars for deliveries by express companies, general and local, and for expediting the mails, is only just entered upon, and ultimate economy, in time and power, is as yet only approximated.

One thing which promises a healthful condition in the development of this side of the automobile business in America is that an excellent conception appears to prevail of the possibilities in the new field. It is approached with ample provision of capital, business organization and the like. In a sense geographical lines seem practically to have been wiped out, so that like customs prevail gradually over a wider and wider portion of the world.

In earlier days, in the case of street railways, for instance, a long time elapsed after their introduction in America before they became known in many important capitals abroad. Besides, the vehicles which are best adapted for use in any country may be expected to be preferred by its people, without regard to where they are made, while gives the builders of such vehicles in America a chance to share in the export trade which is bound to come within a very few years.

Anyone who will take the time and trouble to look over the leading trade papers devoted to different lines will not fail to notice the attention they are now giving to the commercial vehicle, in one form or another. An interesting feature is the fact that in nearly all cases these papers had little or no encouragement for the pleasure automobile. A typical example is *Farm Implement News* of Chicago, the leading American trade journal in its line. For years it gave no support to the automobile and to a certain extent exerted a lively influence against it.

While this is now largely a thing of the past, it is interesting to see how frequently the matter of commercial traction is brought up in favorable shape by this same paper. Perhaps one reason for this is that the business department has noticed the growth in this and kindred lines. By far the largest advertiser in the agricultural implement line is the International Harvester Co. of America. For several weeks the full page announcements published by this concern have been devoted more to proving the worth and value of their gasoline engine than to any other one thing; in fact, it might almost seem as if for the time being their regular lines had been overlooked or forgotten.

A striking advertisement in a late issue exemplifies the "Seven Ages of Power," rated as follows: (1) Hand;

(2) Water; (3) Wind; (4) Horse; (5) Steam; (6) Electric; (7) Gas or Gasoline power. Then follows an exceedingly well-written and convincing line of argument showing that while to a certain extent each kind of power will prevail for all time, and find its uses according to the needs and requirements of mankind, one of them must inevitably gain the ascendancy because of its superiority from a practical and economic standpoint. It is argued that the ultimate superior power is the gas or gasoline engine, in which broad category of course the alcohol-driven engine of the future will be classed.

The Drygoodsman and General Merchant of St. Louis, Mo., has been carrying from one to three pages of motor car advertisements for a number of months, and naturally this fact has been reflected in the editorial pages. The field in which this journal circulates is almost entirely in the middle west, southeast and southwest; and the continuous appearance of these advertisements in its pages is proof that commercial vehicles are gaining in that part of the country. It is worth while also to note that the matter of revenue-free alcohol has been loyally supported by the agricultural and business publications throughout the country, and it is probably not too much to say that their influence was of vast importance in achieving the recent result in Congress.

The special value of support from these somewhat unexpected quarters lies in the fact that an educational work of vast extent and importance is being done by them. It seems certain that the result must be a gradual multiplication of interest in mechanical traction and a vast increase in the amount of actual business done within a comparatively short time. It is now generally admitted that the power-driven wagon is the business man's best friend for the future, and to clearly establish the fact will mean so much for the automobile and kindred interests that the growth will be beyond comparison with anything that has been achieved up to this time.

A short time ago the writer of these lines was interviewing a progressive coal dealer in Northern New York, who had become acquainted with automobiles in a wholly unexpected manner. A local garage had become somewhat deeply in debt to him, and as part of the arrangement by which the account was squared, he took a medium-sized touring car, but not without some misgivings as to the wisdom of the deal. However, it was only a few weeks before he had become an enthusiastic autoist, and told the writer that he believed that within

two years he would be delivering all his coal by the same means.

I know that he is now giving careful study to the subject, believing that motor trucks built to the special requirements of his trade would enable him to dispense with nearly all of his teams without materially increasing his investment. He has one advantage over most dealers in being located in the district where good roads are practically universal, there not being what he calls a "bad haul" within his usual range of deliveries.

A few such instances as this will leaven the lump of the coal trade, than which no other industry needs the commercial vehicle more. And there is none more able or willing to make heavy investments once the commercial motor is actually proved to them to be satisfactory and economical as compared with horse-drawn vehicles. The average coal man, like the native Missourian, needs to be "shown," beyond any possibility of mistaking.

ROBERT BRUCE.

#### Accounted For

Mrs. M.'s patience was much tried by a servant who had a habit of standing around with her mouth open. One day, as the maid waited upon table, her mouth was open as usual, and her mistress, giving her a severe look, said:

"Mary, your mouth is open."

"Yessum," replied Mary, "I opened it."—Everybody's Magazine.

Cambridge, Mass., has a fine new garage building just being completed. It is occupied by the Harvard Automobile Company, who will cater to the college boys' trade. The building is two stories high with 22,000 square feet of storage room and is capable of accommodating 160 cars.

A fluent speaker is said to utter between 7,000 and 7,500 words in the course of an hour's uninterrupted discourse; many orators, more than usually rapid, will reach 8,000, and even 9,000. But 125 words a minute, or 7,500 an hour, is a fair average. Some women can exceed that in conversation when the subject is domestic troubles or the discussion of new fashions.

People naturally think that fresh eggs must be among the most wholesome foods that can be eaten, but a French physician has made the assertion that cases of poisoning from eating cream cakes which he investigated was due to the toxic action of eggs. Fresh eggs, he asserts, are often infected with poisonous matter before they are laid.



# The Unquestioned American Champion The THOMAS FLYER

Wins the American Championship by Six Minutes, being the Only American Car to finish when the race was called

THE THOMAS FLYER, never in a race before arriving at the course, barely completed and practically without trying out, using ordinary touring car non-skid



THOMAS FLYER, 60 H. P., \$4,000

tires—one tire only lasting three miles—changing seven tires, losing thirty-five minutes in all, advanced from fifteenth place to sixth place, passing some of the fastest cars at full speed and beating five out of the ten long-tired-out foreign cars. Under the adverse conditions this is the most marvellous record that has ever been made.

Take this splendid achievement, in connection with the following magnificent touring car records made by the Thomas during the past season, and you will begin to realize the true greatness of the foremost American Car:

Perfect score in Glidden Tour and return to Buffalo.  
Three perfect scores (all Thomas cars entered) in Chicago-Elgin-Aurora endurance contest.  
Road record, Buffalo to Rochester, 68 miles—1 hour, 32 minutes and 45 seconds.  
Hill climbing record of California-Pasadena-Altadena course.  
Stock touring car record of 5 miles, standing start, in 4.55; 1 mile in 57 2-5 seconds, at Atlantic Beach.  
One mile, 55 4-5 seconds, Atlantic City. First and second in one minute class, Atlantic City.  
First in \$4,000 and \$5,000 touring car championship classes, Atlantic City.  
50-mile world's record for stock touring cars, on track, 1.03.19½, Philadelphia.  
25-mile world's record, stock touring cars, St. Louis, 34.36.  
50-mile stock touring car record, Hawthorne track, Chicago, 1.06.19.  
50-mile Pimlico track, Baltimore, 1.06.36.  
Record, Philadelphia to Atlantic City, 60 miles, 90 minutes.  
Record, Philadelphia to Reading, 61 miles—2 hours.  
Record, Philadelphia to Wilkes-Barre, 146 miles—6 hours, 30 minutes.  
Record, Cape May to Philadelphia, 93 miles—2 hours, 45 minutes.  
One-mile Price handicap, Atlantic City, Thomas, from scratch—1.21 2-5.

## THE E. R. THOMAS MOTOR COMPANY

1421 Niagara Street, Buffalo, N. Y.

### In Turkey and Asia Minor

The son of one of the most prominent business men of New York, both father and son enthusiastic automobilists, recently made a tour to Constantinople and through part of the Isles of Greece. It has been our good fortune to obtain copies of some of the letters written to the family and friends. Although they do not deal with automobiling, they are so interesting and redolent of the spirit that reigns in the regions on the eastern shores of the Mediterranean that we have no hesitation in giving our readers the pleasure of their perusal.

#### PERA PALACE AND SUMMER PALACE.

Constantinople, July 20, 1906.

##### To the Father:

Here we are so far on our way, and everything has gone very smoothly indeed. Louis Einstein is at the Embassy here and has been awfully kind, doing everything anyone could do for us. Jay, the first secretary, has also been very kind. The young men in our diplomatic service want to do anything they can.

Constantinople is a most wonderful city. You must come here surely next year if you can put up without your automobile, for the roads here are so like our own roads that motoring isn't the best of fun.

The Ottoman Empire bears many resemblances to our own country in that it covers an enormous territory and is so remote from the rest of Europe that the average European has an entirely distorted idea of it. Nowhere have we been treated with greater kindness and consideration than here. There was a most delightful young man met us at the Customs and put us through without a hitch. If we have such courteous treatment throughout our journey as we've had here up to date, I will call this the greatest expedition I have ever had in my life.

The Turks are the strongest looking fellows I've seen in Europe, and look as tho' they could readily handle about five for one of any other race we've seen in Europe yet.

Mr. Leishman, whom we met in Paris, told us that the country was much misunderstood, and I believe him. I'm going to try to write about it myself as well as Homer, who has come with the idea of putting our people right by a series of articles on the subject.

I find much that Lew Wallace wrote in his great story of the siege of the city in the "Prince of India" coming back to me; only yesterday going out to the suburb (Therapia) where we are stopping at an excellent hotel, we passed along the shore of the city under the walls of the castle that Mahomet

built, where he made his first landing in Europe, and through the Bosphorus, which divides Asia from Europe, by nothing more than a narrow fast flowing salt river, emptying from the Black Sea with a strong current into the Mediterranean.

Pace told us of a good dragoman here, and we met him, or rather he met us, as did the Kavass, or chief servant of the Embassy. They took us to this hotel first and then to the Embassy, when we'd cleaned up enough to be presented to civilized people once more, for of course the railroad train did not offer very good cleaning facilities, and we looked pretty ragged when we arrived. Then we went in the Embassy yacht to Therapia, where we were permanently quartered.

I'm off now for awhile; more later, I hope in the same vein. ARTHUR.



Horatio S. Earle, State Highway Commissioner of Michigan; F. J. Campbell, Manager Aerocar Company, at Wheel

P. S. I've written Mr. Roosevelt a short note. If you see him when in Washington tell him about our good time, which is really all due to him.

ARTHUR.

#### PERA PALACE AND SUMMER PALACE.

Constantinople, July 21, 1906.

##### To the Mother:

Yesterday was one of the most interesting days in my life. We went to Selamik with Jay, the First Secretary of our Embassy, and saw probably the greatest sight of our times. The surroundings of the mosque where the Sultan worships are beautiful. All the buildings are white or cream yellow, and of very simple and dignified architecture. They were surrounded by gardens and trees of almost limitless variety. The mosque itself is at the foot of a hill approached by a broad avenue. The tower where the meuzzin calls rises from the green of the surrounding trees. The roadway from the palace to the mosque is lined with the finest looking soldiers I've ever seen — big, well-built men all. The officers, clad

in slate colored uniforms, are dignified, magnificent looking men. All the men were in white.

The Sultan himself is far different from what the idea we have of him is. He is a slender man with a rather thin, sweet, kindly face. He wears a beard and moustache, both of which are a trifle gray. I don't believe any man with such a kindly face could do any of the things ascribed to him, and undoubtedly more lies have been told of him than of any man living to-day. He was driven to the mosque in one of the carriages of state and returned driving himself in another carriage.

After seeing the Selamik, we had the rare opportunity of seeing the Sultan's stables of Arab horses. They were a marvelous lot of horses, and we have had the saddles put on seven or eight of them and had them ridden for us so we could get a better idea of what an Arab steed looked like in action. I have never seen anything like it and never expect to see anything like it again. Seeing the stables was something that few people ever can do, and we were consequently delighted with such a courtesy. A most delightful Turkish gentleman took us through the stables and had all these privileges granted us, such as seeing the horses in action under saddle.

It's not hot here a bit, and the hour's run up the Bosphorus is great. We have it every day back and forth from the Summer Palace Hotel at Therapia in the Embassy yacht. I know of nothing more beautiful in the world. Constantinople is every bit as clean as New York and is very nice, except for the dogs.

We're off for Alexandretta, the port of Aleppo, Tuesday, and then for the desert. After this trip I'm content with home for good, as such a trip would last a man's life, I think. ARTHUR.

On board the "Equateur" en route to Alexandretta from Constantinople.

##### To the Father:

We left Mr. Leishman yesterday at the Embassy after a most pleasant visit to Constantinople. He only arrived a couple of days before our departure, but entertained us, and did a great deal for us. We lunched with him before we went on board the steamer. He spoke very kindly of you, as everyone always does, and all I ever hope is that I may have as many friends and have as many good words spoken of me as you have spoken of you by everyone who knows you. To think that in Constantinople even, I can find an Ambassador who knows my father intimately and thinks so much of him is indeed very flattering.

Maybe upon our return I'll have some curiosities for the farm. Homer is a great fellow and has given me

# PITTSFIELD

## SPARK

## COIL CO.

MANUFACTURERS OF



**Coils, Timing  
Devices  
Switches**

**Jewell Mica  
Plugs  
Terminals, etc.**



Our Coil is the most rapid, economical in battery consumption, most durable and reliable made in the world. Used exclusively by several of the largest and best automobile manufacturers in the country.

The Franklin Car, which recently won the Economy Test, was equipped with our entire Ignition Outfit—Coils, Timing Devices, Switches and Plugs

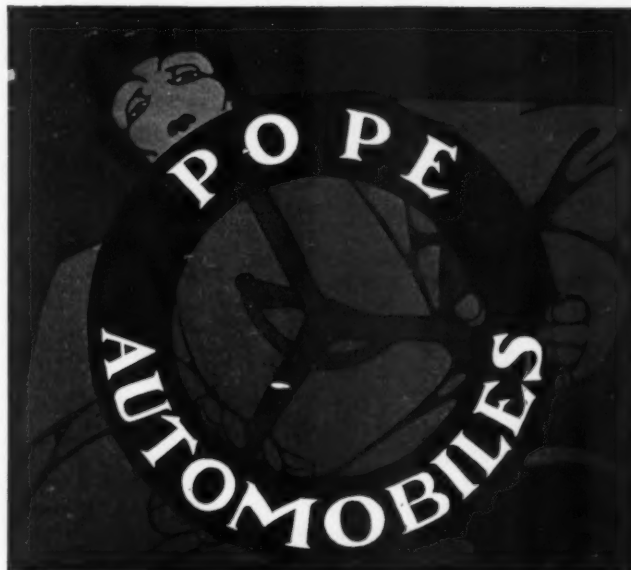
All we ask is an unprejudiced test to prove to you that our goods are what we claim.

Automobile owners who have ignition troubles would do well to test this Coil

Write for prices and description  
of our 1907 Ignition Products

### Pittsfield Spark Coil Co.

PITTSFIELD, MASS.



## 1907 Pope-Hartford Model L 25-30 H.P.

is a car in many ways superior to 1906 Model F—and Model F is acknowledged to be the most reliable car of its kind in the world. Numerous important improvements suggested by our 29 years' cumulative experience have brought the product of our famous Hartford factories up to the highest state of efficiency as regards speed, strength and reliability.

#### SPECIFICATIONS:

**MOTOR:** Four cylinder; vertical; water cooled; all gears encased—valves all mechanically operated and interchangeable—25-30 H.P. Nickel steel crank shaft. Carburetor special design, very flexible. Jump spark ignition. Provision for magneto.

**CLUTCH:** Inverted cone type of large diameter.

**TRANSMISSION:** Sliding gear type with three speeds ahead and reverse.

**DRIVE:** Through a propeller shaft, pinion and bevel gear to the rear axle.

**LUBRICATION:** By a special oiler located under the hood, driven by belt from the cam shaft, with sight feeds on the dash.

**FRONT AXLE:** Solid forging made of special steel of the I-beam type.

**REAR AXLE:** Of solid steel running on large ball bearings in tubular sleeve.

**STEERING:** Strictly irreversible. Worm and sector type.

**BRAKES:** Two sets operated by foot pedals and side lever.

**CONTROL:** Ignition and throttle levers on top of steering wheel, but not revolving with it. Gears changed by one hand lever.

**FRAME:** Armored, similar to our Model F frame.

**BODY:** Entirely new design, distinct and elegant. Double side entrance. Roomy tonneau with large doors.

**HOOD:** Improved design. Front guards overlapped and connected with the frame.

**WHEEL BASE:** Increased to 102-in. Tread 56 in.

**WHEELS:** 32x4-in. front and rear, running on large ball bearings.

**EQUIPMENT:** Full set of lamps, horn, tools and floor mats.

Price, fully equipped, . . \$2750  
(Extension Top, \$150 Extra)

**Pope Manufacturing Company**  
HARTFORD, CONN.

New York, 1733 Broadway      Boston, 223 Columbus Avenue  
Washington, D. C., 819 14th Street, N. W.  
Members Association Licensed Automobile Manufacturers





many good ideas as to what we can do with our place. And I may be able to collect a managerie of sorts for our farm, under his guidance. One thing I would like to do is to take home a pair of Egyptian buffalo, those black-blue fellows with the sleepy eyes. How would they look hauling a hay-cart or a manure wagon in Connecticut? And also I may take back some Syrian donkeys, male and female, so that we can see the tombs and pyramids at home, and you, mamma, Jessie, the baby, and all of us can go galloping off to the farm, each on a "donk" of our own.

This ship is an old-fashioned fellow with true old-fashioned comforts, too. The first class deck is a poop-deck, 'way up high above the rest of the ship. And over it is spread a big awning and everywhere about it one finds lounging chairs. The cabins are big, with regular windows, instead of ports, and the bath tubs are of real marble, cut out from the solid piece, and more particularly, the ship is clean. She is a French ship and run with the same good service as the French Atlantic liners.

We are just now passing the island of Mytelene, one of the islands and cities important during the time of ancient Greece. And in a few hours we shall have arrived at Smyrna, another city famous among the Ionian Greek settlements of Asia Minor and even to-day an important commercial port. It is a great supplement to my Greek experiences of a few years ago to now go to one of the greatest, if not the greatest center of Greek colonization outside the mother country, a group of colonies always closely associated to the Greeks of the home country, too. Indeed Homer himself was an Indian Greek from these same ancient colonies on Asia Minor, and by some, Smyrna is claimed as his birthplace, if I remember rightly.

This morning about six o'clock we passed the coast of the Troad, upon whose plains ancient Troy stood, and was sacked by the Greeks 800 years B. C. And on the opposite side of the ship was probably the very island that the Greeks withdrew to while awaiting the success of their wooden horse filled with armed soldiers, tho' I couldn't distinguish which island of the group was the right one.

The country looks similar to the country around Athens, excepting there are far more extensive olive orchards, and somewhat greener landscape in general, but possibly that is due to the season of this visit, in contrast to our winter visit to Greece.

We are carrying a large deck load of third class passengers, a most quiet, good-natured, nice-looking crowd, too.

They seem never to quarrel and never to do anything they shouldn't do. Indeed a similar number of Americans so huddled together could not have gone half an hour without some encroachment of rights and trouble and argument. But when someone laid down his luggage in one place, no one thought of disturbing it at all, and a place once taken was respected by all, whether the owner was present or away. It gives one good ideas to travel, and makes one more and more realize that humanity is good the world over, and that it's ignorant boasting to say "We are better than all other people!" for no race can claim all the virtue and no race can be accused justly of all the vice—it's pretty well distributed over the world generally and among the nations.

ARTHUR.

#### To the Sister:

We have left Constantinople with great regret. I began to feel at home in the place and to know enough people so that I could say "good-bye" and sincerely mean it. St. Sophia, the bazaars and the Selamluk—in the opposite order, possibly—are the most marvelous things of their kind in existence. Few cities can boast of a trio such as the most picturesque ceremony (and the most impressive); the grandest edifice in the whole world of places of worship (probably the Taj Mahal is more beautiful); and the most diverse and cosmopolitan market place. Yet the Selamluk can nowhere be equaled.

And one has the Bosphorus, the greatest natural canal in the world, which connects the Black Sea, and rich Southern Russia, to the Mediterranean and the world at large.

We're at Samos now, and I've been ashore all the morning walking about and inspecting pictures of the picturesque little city of Vithy (7,000 people) and the capital of the island.

But to go back to Smyrna first. We had a letter of introduction to the manager of McAndrews & Forbes, a big house that exports licorice to our country for use in chewing tobacco—you know one-third of the chewing tobacco is licorice! These people have stations all over Asia Minor and Arabia and send 40,000 tons of licorice annually to our country to be spit out on the free soil of the U. S. A., by gosh! Well, we found that the manager for McAndrews & Forbes at Smyrna was a little American from Alabama, and the only one of the breed in the whole country. He seemed delighted to hear the language of his native land again—for after all the Englishman doesn't wind his tongue around our language the way we do. So he had us around to the Club and then took us all about the city. It's a very clean city, well paved, and busy as Chicago or Pitts-

burg—which is the busiest I can think of. The houses are all very fine, apparently, built with inner gardens and invariably painted white. The streets are the usual Oriental sort, built "by length" and without breadth at all, and probably laid out some thousands of years ago by a careless herdsman driving his cattle along a certain winding path, which later may have grown into a village main street about the time Rome was built. But at any rate the streets are narrow and long, and winding enough and well paved with big flat stones, worn smooth by thousands of bare feet, and clean as a Dutch kitchen floor. The bazaar is of course much like Cairo's bazaar, excepting it is completely roofed over from one end to the other. While we were stepping in front of some junkshop—such as every fool traveler is always captured by—line after line of the biggest, fattest camels I've ever seen—much better than the Egyptian beasts—filed by, loaded down with huge sacks of grain, and carts loaded the same way with sacks of grain came rolling along, hauled by little ponies or big blue buffalo. The drivers were big, healthy looking countrymen, too, and altogether the whole scene gave one an indication of the great richness of the interland rolling away from the harbor of Smyrna in ranges of high hills. 'Way back of Smyrna are awfully big hills, almost mountains. And they say that there's pretty good shooting—big European or Caucasian red deer, and lots of birds such as quail, etc.

We ran down from Smyrna to Samos during the night—smooth as glass—and this morning we woke up to the rattle of the anchor chain as the ship swung into the little cove called Vithy Harbor. Samos is run by an independent prince who does what he pleases for the moderate price of 2,000 Turkish pounds (or \$8,800) tribute to the Sultan. All the island obeys him, and judging from the looks of the little capital and the people in it, he knows his job mighty well, or else his people make him behave.

Samos is clean, too, and very well built, well paved and cleaned. The pavement is the same big flat stones. The houses are all white and made of either stone or mortar. The water front is well built up with a fine key or quay, where the odd looking fishermen's boats are moored. The water is clear and beautifully green. The fish market is very interesting—a very large variety of fish displayed and fresh fish, too. It's the least smelling fish market you could imagine. The whole island is very hilly, but extremely fertile. The hills around the cove are cultivated to the very summit and terraced like the hills of Sicily and



## THE DIEZEMANN SHOCK ABSORBER

is by far the most practical of all absorbers and is definitely placed upon a plane above all others, because of its *self-lubricating system* and the fact that it requires no regulation after it is once adjusted.

The Diezemann Shock Absorber neutralizes the vibration caused by jar and jolt. It thus prolongs the life of the engine, springs and tires.

**Diezemann Shock Absorber**

1308 HUDSON ST.,

HOBOKEN, N. J.



The Jones Speedometer for reason of its accuracy and durability won the Automobile Club of Great Britain and Ireland's Gold Medal in the Reliability contest for Speed Indicators. Eleven instruments, representing four countries, entered.

One instrument only went through the 30 days' trials without adjustment—responded to every test for accuracy and scored an absolutely perfect record.

That instrument was

## The Jones Speedometer

The judges in awarding the Club's GOLD MEDAL ruled that the Jones was the most reliable speed indicating device in the world. The following shows the order of merit:

- |               |               |
|---------------|---------------|
| 1. JONES      | 5. VULCAN     |
| 2. ELLIOTT    | 6. COWEY REC. |
| 3. COWEY IND. | 7. WARNER     |
| 4. GRATZE     | AUTOMETER     |

**JONES SPEEDOMETER**

Manufactured by Jos. W. Jones  
130 WEST 32d STREET, NEW YORK



# MICHELIN VICTORIOUS

SWEEPING VICTORY FOR OUR TIRES OVER ALL OTHER  
TIRES IN THE VANDERBILT CUP RACE, OCTOBER 6, 1906

**The first four winning cars were all equipped with MICHELIN  
TIRES AND RIMS throughout, viz.:**

- |                                |  |
|--------------------------------|--|
| 1st. WAGNER, in a DARRACQ CAR. | 3d. DURAY, in a DE DIETRICH CAR.       |
| 2d. LANCIA, in a F.I.A.T. CAR. | 4th. CLEMENT, in a CLEMENT-BAYARD CAR. |

This victory adds to the unbroken series of wins recorded for Michelin Tires in 1904, 1905 and 1906, and verifies the claim made for their **absolute superiority over every other tire made**. Sold only directly in North America for Michelin et Cie., of Clermont-Ferrand, France, by the

**MICHELIN PRODUCTS SELLING CO., Inc.**

EDWARD W. ELVERSON, Treasurer and General Manager

31 WEST THIRTY-FIRST STREET,

NEW YORK CITY

around Naples. Sicilian grapes, figs and melons are grown here abundantly. Excellent country wine is made here. The great wine makers are the expelled French monks, who have some of them settled here since Clemenceau chased them out of France. But tobacco is the staple crop. Great numbers of the so-called Egyptian and Turkish cigarettes are made here, and one has to pay only \$3.00 per thousand for the finest cigarettes, and \$1.00 or 75 cents per thousand for the ordinary quality of cigarettes. Cigars that we would have to pay 15 cents each for, you can buy for 1¼ cents a piece. We're putting out to sea now, so I'll close down for safety and if I don't get sick will resume later.

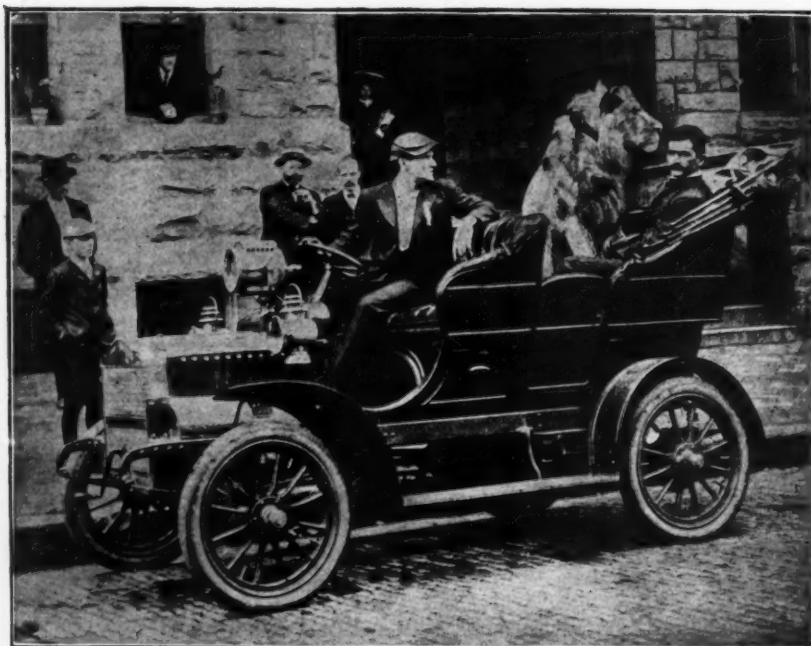
ARTHUR.

deed the Arabs we are likely to meet are no doubt descendants of Ben Hur's Arab friends, and maybe some of the horses we may secure are descended from the splendid horses the old Sheik gave to Ben Hur to win the race from Messala. Anyway, we'll be in the center of the great actions of ancient history and of mediaeval history, too, for the crusaders operated extensively around Aleppo and Antioch during the times of the Christian Kings of Palestine.

It was from here (Aleppo) that the ten thousand Greeks started down toward Canada, and the battlefield of Canada itself, where Cyrus was slain and the victory of his Greeks turned into virtual defeat thereby, is, I should

and shipping licorice root to America for the purpose of mixing it in chewing tobacco, and the Euphrates Valley is one of the richest licorice districts. McAndrews & Forbes' caravans go during the proper season as far south as Mosul collecting licorice to be sent out via Aleppo and Alexandretta, and this being an off season the caravans aren't working, and Forbes was easily able to handle things so we could have a few camels out of his great caravan herds. He seemed most anxious to do what he could when he learned who Davenport was, and it does seem wonderful the world-wide reputation he has won for himself by his remarkable cartoons. Everyone seems to know him, and everyone also seems to be anxious to help him. Coupled with the high regard Leishman has for you, and because of which he was so anxious to help us at Constantinople, Davenport's reputation has been an "open sesame" of wonderful value.

ARTHUR.



LEO OUT FOR A SPIN. THE MAXWELL CAR SEEMS TO BE A FAVORITE WITH LIONS, DOGS, ET CETERA

Sunday, July 29, 1906.

#### To the Father:

Not one of us has had a minute's illness or have felt out of sorts for a moment, and all of us are nursing ourselves as carefully as we can. We land finally at Alexandretta at the extreme north of the Levant, and from there go to Aleppo, a real desert city, inhabited almost entirely by Arabs. This is near the ancient city of Antioch, where much of the history of Syria is centered and where the scene of Ben Hur took place—the chariot race and all that, you must remember. Maybe we'll get down to Antioch—certainly I should like to see the ruins of the old race-course where Ben Hur revenged himself upon Messala, his enemy and the ruiner of his family. In-

think, not far from El Deyr, where we expect to meet our best horses. It seems wonderful that I'm going into a country that I studied about when I was a school-boy and had always looked upon as remote as another world.

The journey is not so serious a one as I had anticipated it would be, and we have such good help extended to us by Mr. Forbes, of McAndrews & Forbes, that I do not imagine our expenses will be as exorbitant as the guide books mention for ordinary travelers. Mr. Forbes has written to the manager of their branch at Aleppo to have him supply us all the camels and horses we may require at no expense but their keep, and to also have us put under the charge of a good caravan master. The business of the company is collecting

#### To a Friend:

How are you, and how's the horse-back riding? I do wish you were going to be with us here, because the trip is so perfect and we are learning such a lot. We are seeing a lot more than we planned to at starting. Our stay in Constantinople was just perfect—summer is the time to be there—and now we are stopping at Smyrna, one of the Greek islands (tho' I'm not sure, I think it is Lemnos) and Bayreuth, and another port on the Levant called Tripoli, near ancient Tyre, before we hit our objective port of Alexandretta. Aleppo, our next point, is a true desert city; different from almost any other city there is. Its streets are, at times, thronged with desert Arabs of the semi-independent, roving tribes, and its constant population is the town Arabs, cousins to the desert rovers. Here we expect to fit ourselves out in desert Arab costume and travel into the Euphrates Valley with twenty yards of table cloth between our legs, and as much more wrapped around our foreheads and waists. In this rigging we will descend on the horse town of Deyr, or El Deyr, and there try to collect our bunch and drive 'em out.

Now to tell you about Constantinople. We arrived and our baggage was put through the customs very quickly by a very attractive young Turk, who was sent down for that purpose by some high official.

We piled heaps of baggage on a little native cart, and put our dogs on top, for we bought two dogs at Paris to take to the desert, and drove up to the hotel in Galata, the old Genoese town, now inhabited chiefly by foreigners and situated across the narrow area of water



**GARAGE AND REPAIR STATIONS****ALABAMA.**

Birmingham, White-Blakeslee Mfg. Co.  
Birmingham, Van Dusen Motor Car Co.  
Mobile, Mobile Motor Car Co.

**ARIZONA**

Phoenix, Southwestern Automobile Company.

**CALIFORNIA.**

Los Angeles, Auto Machine & Garage Co., 631 San Pedro St.  
Los Angeles, Burke Bros., 485 S. Spring St.  
Oakland, Bennet's Auto Garage.  
Oakland, S. C. Myers, 513 16th St.  
Riverside, Alex. Nelson, Eighth St.  
Sacramento, Jos. J. Schner, 1009 No. J. St.  
San Francisco, Boesch Lamp Co., 1569 Grove St.  
San Francisco, Central Bank Auto Garage, 1185 Market St.  
Upland, Euclid Garage.

**COLORADO.**

Colorado Springs, Colorado Springs Garage Co.  
Colorado Springs, Miller & Wilson Auto Co., 122 N. Cascade Ave.  
Denver, Automobile & Repair Co., 1640 Broadway.  
Denver, O. Burke, 918 Larimer St.  
Denver, Herbert Havens, 1618 Wazee St.  
Denver, S. C. Shearer, 1650 Glenarm St.

**CONNECTICUT.**

Bantam, Bantam Anti-Friction Co. (First-Class Repair Station.)  
Bridgeport, Bridgeport Automobile Co.  
Bridgeport, T. R. Aston, 1103 State St.  
Bridgeport, Park City Auto Station, 625 State St.  
Greenwich, Allen Astin & Co.  
Hartford, Brown, Thompson & Co., Main St.  
Hartford, The Miner Garage Co., Cor. High and Allyn Streets.  
Meriden, Meriden Automobile Station, Selling, Storing and Sundries, Automobile Repairing, 41 West Main Street, Telephone, 359.  
New Britain, Corbin Motor Vehicle Co., Myrtle Ave. and High St.  
New Haven, D. H. Buell & Co., 516 State St.  
Waterbury, H. M. Tyrrell, Jefferson St.  
Waterbury, E. H. Towle Co.

**DELAWARE.**

Wilmington, T. C. Bradford, 311 Market St.  
Wilmington, Delaware Auto. Storage and Repair Co.

**DISTRICT OF COLUMBIA.**

Washington, National Capitol Auto Co., 1120 18th St., N. W.

**FLORIDA.**

Jacksonville, Clarke Automobile and Launch Co., 18 Ocean St.  
Jacksonville, East Coast Auto Co., 18 Ocean St.  
Jacksonville, Fred. E. Gilbert, 27 W. Forsyth St.  
Miami, Mr. Einig.

**GEORGIA.**

Atlanta, Capitol City Automobile Company.  
Atlanta, Augusta Garage Co., 51 Broad St.  
Savannah, C. H. Leopold, 444 Dayton St.  
Savannah, G. W. Thomas, 114 Jefferson St.

**ILLINOIS.**

Chicago, A. C. Banker Auto Co., 35th St. and Grand Bl'vd.  
Chicago, Carpenter & Volkhardt, 2050 Indiana Ave.  
Chicago, T. H. Cranston & Co., 58 Wabash Ave.  
Elgin, Frank B. Wood, River St.

**INDIANA.**

Flatrock, Flatrock Automobile Co.  
Indianapolis, Auto Storage & Repair Co., 23 E. Ohio St.  
Indianapolis, Carmon & Fryer, 330 E. Market St.  
Indianapolis, Central Garage, 330 E. Market St.  
Muncie, Muncie Auto Garage & Repair Co., 209 E. Adams St.

**IOWA.**

Cedar Rapids, Cedar Rapids Supply Co., 307 3d Ave.  
Des Moines, Iowa Brass & Nov. Works Co., 117 Grand Ave.  
East Des Moines, Mason Motor Car Co.  
Manchester, Manchester Auto Co.

**KANSAS.**

Topeka, Kenwood Garage, 111 E. 7th St.

**KENTUCKY.**

Louisville, R. L. Davis, 1003 W. Chestnut St.

**LOUISIANA.**

New Orleans, Independent Auto Co., Ltd.

**MAINE.**

Portland, Allen Motor Car Co.  
Portland, Congress Sq. Auto Station, 18 Forest Ave.  
Portland, Dowling's Garage, 22 Forest Ave., Telephone N. E. 1630, Auto, 1656.  
Portland, Maine Motor Carriage Co., Free and South Sts., Telephone N. E. 290, Auto, 2861.  
Waterville Motor Co., Waterville, Main St.  
Waterville, Central Maine Auto Garage, Charles St.

**MARYLAND.**

Baltimore, Auto Storage & Repair Co., 1118 Cathedral St.  
Baltimore, Balto. Motor Car Co., 327 N. Calvert St.

**MASSACHUSETTS.**

Brockton, Geo. J. Donahue, 389 Warren Ave., Telephone 92. Charging and accessories.  
Lynn, Y. C. Der Bar, Broad St.  
Newton Centre, J. W. Crowell, Commonwealth Ave. Tel., 444 Newton West  
Northfield, N. W. Keet.

**DEERE****1907****TYPE "B"****"A Car Designed to Satisfy"**

4 Cylinder  
5 Passenger  
Touring Car  
Force Feed Oilier  
106" Wheel Base

**SIMPLE, SILENT, SATISFACTORY****Investigate the "Deere." Price \$2,500****AGENTS**

**FLATBUSH AUTOMOBILE CO.**  
50-54 Tilden Avenue  
BROOKLYN

**F. FISCHBECK**  
Pasadena and Los Angeles  
CALIFORNIA

**The Deere-Clark Motor Car Co.****MOLINE, ILL., U. S. A.**

from Stamboul, the old city of Constantine, where St. Sophia Mosque and the Sublime Porte are situated and where the Turks live.

Our luggage cart was followed by a howling mob of dogs who leaped around the cart that our two pups were mounted on. Thus pursued and with the gorgeous Kawass or guard of the American Embassy escorting us with sword and pistol and gold braid, we arrived at the Pera Palace Hotel. But we didn't stop there long. Instead we hurried out to Therapia, a very lovely suburb on the Bosphorus, where most every one lives in summer. There there is a most excellent hotel kept by the same people that keep the Pera Palace Hotel at Galata (or Constantinople), and here we stayed until our departure on yesterday, the 26th, for Alexandretta.

Our room faced the Bosphorus and the shore of Asia close by, about one mile and a half across from Europe here, and all day long we could see ships, sail, steam and row boats, native fishing boats with strange sail, and tribe yachts sailing back and forth, Russian tank steamers from the Baku wells, and freighters of every nation flying from the rich ports of Southern Russia.

A hundred yards from the hotel, at the foot of the garden, is the bath house where a fellow can take a morning plunge before breakfast and come up hungry as a bear.

Along the whole water front, leading out from Constantinople is a good road, along which came buffalo hauling heavy carts (such as one sees in Egypt), donkeys loaded down with huge packs, horses likewise loaded with crates of chickens, ducks, geese and farm produce, and of course, carriages full of Turks, Turkish women, foreign residents, "tourists and sightseers" and all the mixed population of a semi-Asiatic city in Europe.

Lewis Einstein is stationed here and was most awfully nice to me and to Davenport and Thompson, too. He introduced us to a lot of people and did all sorts of thoughtful things. We had a most excellent dance one evening and the scene (except there were no English uniforms) was like the Savoy at Cairo.

But my hand is getting tired and no doubt you want to go out with the boys and swim or play tennis. So long, then, and write to me. **ARTHUR.**

The "Thomas Flyer" folks have shipped some of their 1907 models to Brooklyn, N. Y., and the Bruns Automobile Company there have them ready for delivery. Following up its recent showing in that part of the country, they expect the Thomas car to remain a hot favorite on Long Island.

### Government Regulations for Denatured Alcohol

Regulations controlling the production and use of denatured alcohol have been issued by J. W. Yerkes, Commissioner of Internal Revenue. These regulations will render effective the law passed by Congress to take effect January 1 next, and provide for the withdrawal from bond, tax free, of domestic alcohol when it is rendered unfit for beverage or liquid medicinal usage by the admixture of suitable denaturing materials. The tax now amounts to about \$2 per wine gallon on alcohol at 180° proof, and the denatured article will, after January 1, be free from that tax.

There will be two classes of denatured alcohol—first, that styled completely denatured, which will pass into use for general consumption and can be purchased in stores without limiting regulations as against the private consumer; and second, especially denatured alcohol in which the material demanded by the needs of manufacturing interests will be regarded. There are limitations to the latter confining it to the special manufacturing industry for which it is prepared.

This especially denatured alcohol will be kept under strict surveillance and government supervision.

The denaturing process will be accomplished on the distillery premises where the alcohol is produced, in special bonded warehouses designated and used alone for denaturing purposes and for the storage of denaturing materials. These buildings and the operation itself will be under closest governmental inspection and control. Denatured alcohol will supplant very largely the consumption of wood alcohol for both domestic and manufacturing purposes, as it will be cheaper.

While the price of the completely denatured product cannot now be definitely stated, it is believed it will not be more than 35 cents a gallon. The price of the specially denatured alcohol will naturally vary according to the cost of the denaturing ingredients selected to meet the necessities of the manufacturing industries. These special formulas will only be used where it is made perfectly apparent to the Department that the industrial interests involved cannot use completely denatured alcohol by reason of the presence of wood alcohol or benzine. In that case some other denaturing agent or agents, which will accomplish the purposes of destroying, as far as possible, the potable or beverage qualities of the alcohol, and at the same time adapt the denatured article to the special ends desired, will be determined upon.

### Trades Represented in Automobile Making

C. W. Kelsey, eastern sales manager of the Maxwell-Briscoe Motor Company, has been commenting on the large number of different trades and professions which are represented in automobile factories, and finds that there are more than thirty different trades pursued in each factory, and a number of other skilled help in clerical and office lines also required. The trades represented include designers, draftsmen, chemists, pattern makers, foundrymen, moulders, core makers, sheet metal workers, carpenters, tool-makers, general machinists, blacksmiths, brass finishers, assemblers, platers, grinders, upholsterers, wheel-rights, painters, decorators, burnishers, electricians, firemen etc.

### Wrong Use of Idioms

A worthy French Protestant pastor was guest in a Scottish manse. One morning kippered herrings were served at breakfast. The French pastor asked the meaning of "kipper." His host replied that it meant "to preserve." On taking his leave next day the French pastor, wringing his host's hand, said: "May the Lord kipper you, my good friend."

Another Frenchman, having learned that the saying, "Other fish to fry," meant that the user had other business to attend to, excused himself to a lady who had invited him to stay to lunch by saying that he had "de feesh to fry."

### New Runabout

A movement is on foot to establish an automobile factory in Norwich, Conn. Mr. Lamar Lyndon, who has been consulting engineer for Pope & Co., of Hartford, and is the author of a standard work on storage batteries, either owns or controls all the patents to be used on the car to be manufactured. It is proposed to build a low-priced car that will be popular with the American public, a two-seated runabout, of 10 or 12 H. P., which would sell for less than \$500. The engine will be a rotary expansion chamber steam motor, with an indestructible flash boiler, wheel base, 9 feet; weight, 900 pounds; speed, 30 miles; can be regulated higher.

C. S. Johnston, who has a garage at New Haven, Conn., intends to manufacture motor cars. He is constructing a model at present and expects to have it on the market in the early spring. It is to be a four-cylinder, 30 H. P. runabout type, and sell for \$1,500 or \$2,000.

Jigson—The telephone is a great thing.  
Jagson—I should say so. You can tell a man just what you think of him and not have to run.

## GARAGE AND REPAIR STATIONS—Continued

Pittsfield, Central Automobile Station Co., Renne Ave. & Pearl St., Telephone 161-11.  
Pittsfield, Pittsfield Auto Garage, 328 North St., Telephone 15.  
Stockbridge, H. B. Parsons  
Waltham, Watch City Auto Co., Music Hall Ave.  
Worcester, Worcester Auto Co., 30 Exchange St.  
Worcester, Bean & Hanson, 671 Main St.

## MICHIGAN.

Bay City, H. T. Penner, The Ridotto.  
Bay City, Mobile Motor and Machine Co.  
Detroit, Berg & Brechner, 238 Jefferson Ave.  
Detroit, Detroit Automobile Top Co., 265 Jefferson Ave.  
Lansing, John Bohnet, 117 Lenawee St., E.  
Saginaw, Morris Auto Co., Tilden St. and Genesee Ave.

## MINNESOTA.

Minneapolis, Barclay Auto Co.  
Minneapolis, Adland Storage & Auto Co., 240 7th Ave. South.  
St. Paul, Bird Burney Auto Co., Washington and 5th Sts.  
Winona, Adams Automobile Co.

## MISSISSIPPI

New Orleans, Crescent City Automobile Co., South Rampart St.

## MISSOURI.

Kansas City, E. P. Moriarty & Co., 1000 Grand Ave.  
Kansas City, Day Auto Co., 1407 S. 12th St.  
St. Louis, Olive Auto Co., 3970 Olive St.  
St. Louis, The Union Garage, 4603 Olive St.  
St. Louis, Colonial Automobile Co., 3944-3950 Olive St.

## NEBRASKA.

Lincoln, The Wittman Co., 205 S. 11th St.

## NEW HAMPSHIRE.

Manchester, Brodie Elec. Co., 42 Pleasant St.

## NEW JERSEY.

Asbury Park, C. R. Zacharias.  
Atlantic City, Atlantic Automobile Co.  
Atlantic City, Columbia Automobile Station.  
Bloomfield, Albert Loppacker, Glenwood Ave. and Henry St.  
Camden, Reeves Auto Station, 7th and Market Sts.  
East Orange, Hollywood Motor Car Co., Opposite Grove St. Sta.  
Elizabeth, Elizabeth Auto Co., 14 Westfield Ave.  
Englewood, J. W. Van Wart, Palisade Ave.  
Englewood, W. P. Varley.  
Freehold, Hotel American.  
Hackensack, Hackensack Auto Co.  
Hackensack, North Jersey Auto & Eng. Co.  
Jersey City, Crescent Cycle & Automobile Co., 256 Hudson Blvd.  
Jersey City, S. W. J. Kells Mfg. Co., 130 Highland Ave.  
Long Branch, W. H. Parker & Co., 148 B'way.  
Montclair, Montclair Auto Station Co., Valley Road.  
Newark, Newark Garage & Repair Co., Clinton Ave. and Somerset St.  
Newark, Motor Car Co. of New Jersey, 391 Halsey St.  
Newark, Frank Boland Auto Co., 233 Halsey St.  
Newark, Coburn & Beldon, 577 Central Ave.  
Newark, Astor Garage, 56 Sherman Ave.  
Newark, Riverside Garage, 120 Riverside Ave.  
Newark, Motor Vehicle Co., 518 Broad St.  
Newark, New Jersey Auto Car Co., 226 Halsey St.  
Newark, Austin Auto Co., 484 Broad St.  
Newark, Forest Hill Auto Co.  
Orange, Orange Automobile Garage.  
Passaic, Geo. Brown.  
Passaic, Passaic Motor Car Co., 147-151 Main Ave.  
Passaic, Soule & Pearl, 161 Main Ave.  
Paterson, Brown & Schmidt, 199 Paterson St.  
Summit, Chester & Henry.  
Trenton, Franz Milton Co., 30 W. State St.  
Trenton, Walter Richards.

## NEW YORK.

Albany, Ernest A. Norris, 325 Central Ave.  
Amsterdam, J. L. Peck.  
Ballston Springs, Tracy Nicholl Auto Garage.  
Bath, Frank Klickler.  
Buffalo, Auto-Car Garage, 77 Edward St. Near Delaware Ave.  
Buffalo, Kelsey Co., 49 Niagara St.  
Buffalo, Motor Vehicle Garage Co., 1133-1137 Main St.  
Buffalo, C. R. Baine, 1525 Seneca St.  
Elmira, H. C. Goaser, 122 R. R. Ave.  
Ithaca, Fairbanks Grant Mfg. Co., 109 Albany St.  
Middletown, C. L. Swezy, 28 James St.  
New Rochelle, Deselbrow Motor Car Co.  
New York City, American Automobile Storage Co., 36-38-40 W. 60th St.  
New York City, Cryder & Co., Storage and Repairs, 63d St. & Park Ave.  
New York City, American Locomotive Auto Co., B'way and 57th St.  
New York City, Archer & Co., 231-233-235 W. 40th St.  
New York City, The Autocar, 2182 B'way.  
New York City, The Auto Mart, 501 7th Ave.  
New York City, Auto Transportation Co., 309 W. 41st St.  
New York City, Automobile Arcade, B'way and 49th St.  
New York City, Automobile Exchange & Storage Co., 133 W. 38th St.  
New York City, Bouton Motor Co., 110 W. 41st St.  
New York City, Sidney B. Bowman Auto Co., 52 W. 43d St.

New York City, B'way Automobile Exchange, 515 7th Ave.  
New York City, Bronx Auto Garage, 1115 Boston Rd.  
New York City, Bryant & Johnson, 120 E. 84th St.  
New York City, Chelsea Auto Storage Co., 516 W. 37th St.  
New York City, Columbus Auto Exchange & Stor. Co., 312 W. 52d St.  
New York City, Commission Automobile Co., 742 7th Ave., Cor. 49th St.  
New York City, Continental Auto Co., 168 E. 75th St.  
New York City, Electric Cab Co., 238 W. 50th St.  
New York City, Callaher, E. B., 228 W. 58th St.  
New York City, Harlem Automobile Co., 159 W. 127th St.  
New York City, Hol Tan Co., B'way & 56th St.  
New York City, Harry S. Houpt, 731 7th Ave.  
New York City, Lenox Auto Garage, 60 W. 116th St.  
New York City, Locomobile Co. of America, B'way and 166th St.  
New York City, Majestic Automobile Co., 1709 B'way.  
New York City, Mt. Morris Auto Garage, 27 W. 124th St.  
New York City, Panhard & Levasor Auto Co., B'way and 62nd St.  
New York City, Tuxedo Garage Co., 33-39 E. 58th St.  
New York City, Victor Auto Storage Co., 147 W. 55th St.  
New York City, White Sewing Machine Co., 42 W. 62nd St.  
New York City, Winton Motor Carriage Co., 1706 B'way.  
Poughkeepsie, John Van Benschoten, Catherine St.  
Rochester, Fred A. Mabbett, 189 Main St., West.  
Saratoga Springs, Hodges Auto Garage.  
Saratoga Springs, Ketchums Auto Garage.  
Syracuse, The Amos-Pierce Auto Co., 109-113 So. State St.  
Utica, Utica Motor Car Co., Harry P. Mundy.

## NORTH CAROLINA.

Charlotte, L. Barringer, 10 N. Church St.

## OHIO.

Akron, Union Automobile Garage Co., South College St.  
Akron, Akron Auto Garage Co., 9 W. Buchtel Ave.  
Cleveland, Geo. A. Crane & Co., 40 Clara St.  
Cleveland, H. S. Moore, 160 Crawford Rd.  
Cincinnati, Gunther Bros. Co., 1633 Madison Blvd.  
Cincinnati, Queen City Auto Co., 810 Race St.  
Columbus, Capitol City Auto Co., 691 High St.  
Dayton, Chas. E. Drury, Miami Motor Co.  
Dayton, Kiser & Co., 29 E. 2nd St.  
Toledo, Toledo Motor Carriage Co., 1012 Madison St.  
Youngstown, A. E. Brown, 134 E. Federal St.

## OREGON.

Portland, Ballou & Wright, 86 6th St.

## PENNSYLVANIA.

Allentown, Harry A. Smith, Church and Court Sts.  
Allentown, O. J. Dietrich, N. 10th St.  
Allentown, Berwin Auto Co., N. 7th St.  
Allegheny, Allegheny Auto Co., 711 Jackson St.  
Ambler, D. E. Johnson.  
Dalton, Kellogg Mosier & Co.  
Doylestown, John J. Donnelly.  
Easton, Fischer Auto Storage Co., 219 Ferry St.  
Easton, Lon Crane.  
Easton, C. F. Hill, 327 Ferry St.  
Easton, E. F. Crane, Holland Garage, 200 South 3d St.  
E. Downingtown, Griffith & Wollerton.  
Erie, Bay State Machine Co., 121 Peach St.  
Harrisburg, Central Penn Auto Co., Market St.  
Lancaster, Safety Buggy Co., Elizabeth and Plum Aves.  
McKeesport, Sam'l Leek, 9th Ave. and Mulberry.  
Overbrook, Henry Mackeller.  
Philadelphia, Regent Garage, 220 South 40th St., West Philadelphia.  
Philadelphia, Eastern Automobile Co., Broad below Callowhill.  
Philadelphia, Bellevue Stratford Garage.  
Philadelphia, 51st St. Auto Station, 51st St. and Beaumont Ave.  
Philadelphia, D. L. Mulford, 1801 N. 21st St.  
Pittsburg, Auto Traffic Co., 6101 Penna. Ave.  
Pittsburg, Atlas Automobile Co., 6235 Penna. Ave.  
Pittsburg, A. Engle, 1103 Carson St., S. Side.  
Pittsburg, East Liberty Auto Co., 5969 Centre Ave.  
Pittsburg, H. S. Townsley, 323 Homeward Ave.  
Pittsburg, Hiland Garage, Beatty and Baum Sts.  
Pittsburg, Henry Auction Co., 9th St.  
Pittsburg, Standard Automobile Co., 5917 Baum St.  
Pittsburg, The Homewood Auto Co., 1750 Kelley St.  
Pottstown, D. G. Good.  
Reading, Chas. A. Miller, 33 Wood St.  
Scranton, R. W. Whipple, 529 Spruce St.  
Stroudsburg, G. H. Schroeder.  
Wilkes-Barre, Wilkes-Barre Auto Co., 23 N. Franklin St.  
Wilkes-Barre, Auto Machine & Repair Co., 33 N. Washington St.  
Wilkes-Barre, R. Johnson, 12 N. Main St.  
Williamsport, Williamsport Automobile Exchange, West Third St.  
York, J. A. Walker.

York, Henry, Millard & Henry, 1059-1069 W. Market St.  
York, E. L. Kraft & Co., 241 S. George St.  
York, Snyder Cycle and Automobile Co., 231 W. Market St.

## RHODE ISLAND.

Narragansett Pier, Church & Caswell.  
Newport, N. Y. Auto Repository, Ocean House Stables.  
Newport, J. D. Dickson, 113 Bellevue Ave.  
Providence, Philip Shaw, Reservoir Ave.

## TENNESSEE.

Chattanooga, Sid Black Automobile Co.  
Nashville, Anderson Auto Co., 314 4th Ave. N.  
Nashville, B. T. Bell, 166 3d Ave. N.

## UTAH.

Ogden, Ogden Automobile Co., Twenty-fourth St.

## VERMONT.

Rutland, Clark & Mathews, 161 West St.  
White River Junction, Excelsior Carriage Co.

## WISCONSIN.

Milwaukee, C. G. Norton & Co., 459 B'way.  
Milwaukee, Hein & Casper, 501 B'way.  
Milwaukee, Welch-Estberg Co., Seventh and Grand Aves.

## DOMINION OF CANADA.

Montreal, Dominion Motor Car Co.  
Quebec, Quebec Auto and Launch Co.  
Winnipeg, McCulloch & Rosewell, 189 Lombard St.  
Winnipeg, Jos. Maw & Co. 280 Williams St.

COMPLETE  
LISTSAuto  
Owners  
Garages

DEALERS, JOBBERS  
and MANUFACTURERS

New Names  
Daily, Weekly  
or Monthly

MOTOR DIRECTORIES CO.

INCORPORATED

Successors to

AUTO DIRECTORIES CO.

108 Fulton St.

PHONE 497 JOHN New York City



## THEY SUPPLY YOUR WANTS

## AMMETERS

American Coil Co., Foxboro, Mass.  
American Electrical Novelty Mfg. Co., Spring, Hudson and Vandam Sts., New York City. (Ever Ready.)  
Atwater Kent Mfg. Works, 42-46 N. 6th St., Philadelphia, Pa.  
Dow Portable Elec. Co., Braintree, Mass.  
Eldridge Electric Mfg. Co., 3 Post Office Sq., Springfield, Mass.  
Snutsel Auto-supply Co., 1534 B'way, N. Y.

## ANTI-SKID DEVICES

Brown, J. C., Mfg. Co., Butler, Ind.  
Crope, F. G., 152 Northampton Ave., Buffalo, N. Y.  
Dentsau, Geo., 161 Grand St., N. Y. City, N. Y.  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Meisinger, H. & F., Mfg. Co., 1801 First Ave., N. Y. City, N. Y.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.  
Sunbury Mfg. Co., Sunbury, Ohio.  
Weed Chain Tire Grip Co., 28 Moore St., N. Y. City, N. Y.

## AUTOMOBILE COVERS

Armbruster, R. H., 309 S. 6th St., Springfield, Ill.  
Automobile Cover and Top Mfg. Co., 148 W. 56th St., New York City.  
Duane, W. J. & Co., 1771 Broadway, New York City.  
Empire Gear and Top Co., 413 N. 2nd St., Phila., Pa.  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Gilbert Mfg. Co., New Haven, Conn.  
National India Rubber Co., Bristol, R. I.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.  
Springfield Auto Top and Upholstering Co., 102-106 Dwight Street, Springfield, Mass.  
Vehicle Apron and Hood Co., 198 E. Rich St., Columbus, Ohio.  
Wiley (The), Wm. H. Co., Box 78, Hartford, Conn.

## BASKETS

Burlington Basket Mfg. Co., Burlington, Iowa. (Refrigerator.)  
Hall, E. L., 299 E. 29th St., New York City. ("M. & A.")  
Heywood Bros. & Wakefield Co., 174 Portland St., Boston, Mass.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.

## BELLS (AUTOMOBILE)

Liberty Bell Co., Bristol, Conn. "Liberty" and "Autobell."  
Mossberg, Frank Co., Attleboro, Mass.  
Post & Lester Co. (The), 20 Sargeant St., Hartford, Conn.  
Rosseau Mfg. Co., 310 Mott Ave., N. Y. City. (Electric.)

## BRAZING COMPOUNDS

A. & J. Mfg. Co., 26 W. Randolph St., Chicago, Ill. (For cast iron and steel.)  
American Perrofix Brazing Co. (The), 813-a Arcade Bldg., Philadelphia, Pa.  
Dixon, Jos. Crucible Co., Jersey City, N. J. (Brazing graphite.)  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
National Cement and Rubber Mfg. Co., 3053-59 Monroe St., Toledo, Ohio. "High Pressure" and "Red Cross."  
Standard Brazing Co., 88 Broadway St., Boston, Mass.  
Thompson, Chas. A. Co., 39 Cortlandt St., N. Y. City. (Self-fluxing solder.) "Soldierine."  
U. S. Brazing Compound Co., 113-115 S. 2d St., New Bedford, Mass.

## BUFFETS, PORTABLE

Portable Buffet Co., 145 E. 42d St., N. Y. City.  
CAPS (AUTO)  
Automobile Equipment Co., 251 Jefferson Ave., Detroit, Mich.  
Kibbe & Tomlinson, Batavia, N. Y.  
Morawetz Co. (The), 343 Broadway, Milwaukee, Wis.  
Pontiac Knitting Co., Pontiac, Mich.  
Post & Lester Co. (The), Hartford Conn.  
Saks & Co., Broadway, 33d and 34th Sts., N. Y. City.  
Scandinavian Fur and Leather Co., 14-16 W. 33d St., New York City.  
Shaw, Ora D., 109 Kingston St., Boston, Mass.  
Springfield Hat and Cap Co., Springfield, Mass.

## CARBIDE

Acetylene Gas Illuminating Co., 105 Walker St., New York City. (Crude and refined.)  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.

## CARBURETERS

American Coil Co., Foxboro, Mass. (Mixing Valve.)  
American Generator Co., N. E. Cor. Park Ave. and 63d St. (Combined tank and carbureters.)  
Ardley Motor Car Co., Yonkers, N. Y.  
Automobile Supply Co. (The), 1339 Michigan Ave., Chicago, Ill.  
Auto. & Power Appliance Co. (The), 357-359 The Arcade, Cleveland, Ohio.  
Barker, C. L., Norwalk, Conn. "Barker."  
Bowen Motor Co., 93 Baynes St., Buffalo, N. Y. "Phoenix."  
Bradford Motor Co., Bradford, Pa. "Longuemare."  
Brees Motor Mfg. Co., 33 Court St., Newark, N. J.  
Brennan Motor Co., 101 Grape St., Syracuse, N. Y.



# Did it Ever Occur to You

THAT RAIL TICKETS ARE  
ACCEPTED ON D. & B.  
DAILY LINE STEAMERS?

Under special arrangement with the Michigan Central, Wabash and Grand Trunk Railways, all classes of tickets reading via these lines between Detroit and Buffalo, in either direction, will be accepted for transportation on D. & B. steamers.

Send a two cent stamp for illustrated booklet.  
Address

## D. & B. STEAM-BOAT COMPANY

Dept. A. DETROIT, MICH.



Burt Mfg. Co., 124-130 N. Edwards St., Kalama-  
zoo, Mich.  
Byrne, Kingston & Co., Kokomo, Ind. "Kingston."  
Camden Anchor-Rockland Machine Co., Rockland,  
Me. "Knox."  
Clemick-Hirsch Co., 594 National Ave., Milwaukee,  
Wis.  
Columbus Screw & Mach. Co. (The), 244 Kaiser  
St., Columbus, Ohio.  
Cook Kerosene Carbureter Co., 15-21 Exchange  
Place, Jersey City, N. J. "Cook Kerosene."  
Crouch Motor Co., Stoneham, Mass. "Crouch."  
Culver Novelty Co. (The), Culver, Ind.  
Curtiss, Geo. H., Mfg. Co., Hammondsport, N. Y.  
Dearborn, F. W., 751 Old South Bldg., Boston,  
Mass.  
Dow Portable Electric Co., Braintree, Mass.  
"Methot."  
Dry Gas, The Heath Co., 1623 Broadway, New  
York City.  
Duryea Power Co., N. River and Hockley Sts.,  
Reading, Pa. (Atomizer.)  
Essex, G. B. Brass Co., 480 Franklin St., Detroit,  
Mich.  
Fairmount Engineering Co., 3207 Spring Garden  
St., Philadelphia, Pa.  
Funke, A. H., 83 Chambers St., N. Y. City, N. Y.  
(Motor Cycle.)  
Generator Valve Co., 108 Liberty St., N. Y. City,  
N. Y. (Marine.)  
Hatcher Auto-Parts Co. (The), 138 Viaduct, Cleve-  
land, Ohio.  
Hewitt Motor Co., 6-10 E. 31st St., N. Y. City,  
N. Y.  
Holley Bros. Co., 661-673 Beaubien St., Detroit  
Mich. "Holley."  
Hurd & Haggin, 316 Hudson St., N. Y. City, N. Y.  
Jager, Chas. J., Co., 166-68 High St., Boston, Mass.  
Little & Eastman Co., 595 Harrison Ave., Boston,  
Mass. "Menn's."  
Massiac Mfg. Co., 671 Atwater St., Detroit, Mich.  
Maxwell & Fitch Co. (The), Rome, N. Y.  
Mayo Damper Co., 395 Walnut St., Pottstown, Pa.  
Menn's New Auto Mart, Boston, Mass.  
Merkel Motor Co., Layton Park, Milwaukee, Wis.  
Michigan Motor Co., 246 S. Front St., Grand  
Rapids, Mich.  
Murray, John A., 112 Front St., Brooklyn, N. Y.  
North Chicago Machine Co., North Chicago, Ill.  
Sherwood Mfg. Co., 1702-12 Elmwood Ave.,  
Buffalo, N. Y.  
Shipman Mfg. Co., Sunbury, Pa. "Shipman."  
Speed Changing Pulley Co., 750 E. Washington St.  
Indianapolis, Ind.  
Walker, B. F., 57 Golden Hill St., Bridgeport, Conn.  
Wheeler, F. H., 637 N. Meridian St., Indianapolis,  
Ind. "Schebler."  
Winkley Co. (The), Box 243, Detroit, Mich.  
"Garlus."  
Wray Pump and Register Co., 191 Mill St., Roches-  
ter, N. Y.

## CEMENTS

Diamond Rubber Co., Akron, Ohio. "Titan."  
Excelsior Supply Co., 233 E. Randolph St., Chi-  
cago, Ill.  
Fisk Rubber Co., Chicopee Falls, Mass. (Auto and  
bi.)  
Goodrich, B. F. & Co., "Goodrich" Akron, Ohio.  
Hartford Rubber Works Co., Hartford, Conn.  
"Hartford."  
Hastings & Anderson, 116 Lake St., Chicago, Ill.  
India Rubber Co., 16 Warren St., N. Y. City.  
International Automobile and Vehicle Tire Co.,  
Milltown, N. J.  
M. & M. Mfg. Co., Akron, Ohio. (And acid curing  
solutions.)  
National Cement and Rubber Mfg. Co., 3053-59  
Monroe St., Toledo, Ohio. "Red Cross." "An-  
chor." "Pioneer." High Pressure. "A. & B"  
Noonan Tool and Machine Works, 103-105 Domi-  
nick St., Rome, N. Y.  
Pneu-Cure Co., 1133 Broadway, N. Y. City. "Pneu-  
Cure."  
The Rath Mfg. Co., 1023-5 N. 3d St., Philadelphia,  
Pa.  
Rubber Goods Repair Co., 89 16th St., Chicago, Ill.  
Tingley & Co., Chas. O., Rahway, N. J.  
Young, Orlando W., 174-180 Frelinghuysen Ave.  
Newark, N. J.

## CHAINS (AUTOMOBILE)

Baldwin Chain and Mfg. Co., Dept. B., 31 Hermon  
St., Worcester, Mass. ("Baldwin" Detachable.)  
Boston Gear Works, 153 Purchase St., Boston,  
Mass.  
Diamond Chain and Mfg. Co., 241 W. Georgia St.,  
Indianapolis, Ind.  
Duryea Power Co., North River and Hockley Sts.,  
Reading, Pa.  
Link Belt Engineering Co., Hunting Park Ave. and  
P. & R. R., Nicetown, Philadelphia, Pa.  
Meisel Press and Mfg. Co., 944-948 Dorchester Ave.,  
Boston, Mass.  
Morse Chain Co., Trumansburg, N. Y. (Silent  
Running High Speed.)  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.  
Whitney Mfg. Co. (The), Hartford, Conn.

## CHAIN ADJUSTERS

Aurora Automatic Machinery Co., Aurora, Ill.  
"Thor."  
Clark, A. N., & Son, Plainville, Conn.  
Corbin Screw Corporation, New Britain, Conn.  
Worcester Pressed Steel Co., Worcester, Mass.

## CHAIN CLEANING MATERIALS

Cole, G. W., Co., 143 Broadway, N. Y. City.  
("3-in-1")  
Excelsior Supply Co., 233 E. Randolph St., Chi-  
cago, Ill. ("Famous.")

## THEY SUPPLY YOUR WANTS

## CHAIN GUARDS (AUTOMOBILE)

Automobile Equipment Co., 251 Jefferson Ave., Detroit, Mich.

## CIGAR LIGHTER

International Auto. and Yacht Agency, 119-121 Nassau St., N. Y. City. "Radium."  
Rochester Auto. Co., Rochester, N. Y.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.

## CLEANING COMPOUNDS

Fisk Mfg. Co., Springfield, Mass. (Soap.)  
Ford & Dennen, 16 Thayer St., Boston, Mass. (Soap.)

## CLOCK HOLDERS

Coleman, H. P., 66 Stanhope St., Boston, Mass.  
Post & Lester Co. (The), 20 Sargeant St., Hartford Conn. (Watch Holders.)

## CLOCKS (AUTOMOBILE)

Brown, R. E. Whitney Building, Cleveland, Ohio.  
Bullard, J. H., Springfield, Mass. (Speedometer odometer and clock combined.)  
Chelsea Clock Co., 16 State St., Boston, Mass. (Also Boat.)  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Levy, Manasseh & Co., 182 Broadway, N. Y. City.  
Meyrowitz, E. B., 104 E. 23d St., N. Y. City.  
Motor Car Equipment Co. (The), 55 Warren St., N. Y. City.  
Motor Car Specialty Co., 143 E. State St., Trenton, N. J. (Speed Meter, Odometer and Clock Combined.)  
Post & Lester Co. (The), 20 Sargeant St., Hartford, Conn.  
The Electric Flash Light Clock.  
Wilson, The Auto Clock Co., 935 Arch St., Philadelphia, Pa.

## CLOTHING (AUTO)

Automobile Equipment Co., 251 Jefferson Ave., Detroit, Mich. (Rubber Capes.)  
Clark Glove Co., Peabody, Mass. (Leggings.)  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Gilbert Mfg. Co., New Haven, Conn. (Leggings—Sleeve Protectors.)  
Laitin, I. and H., 289 Church St., N. Y. City. (Fur Lined Overcoats.)  
Mesinger, H. & F., Mfg. Co., 1801-3 1st Ave., New York City. (Leggings.)  
Moore-Smith Co., 250 Devonshire St., Boston, Mass. (Fur and Fur Lined Coats.)  
Nathan Novelty Mfg. Co., 88-90 Reade St., N. Y. City. (Sleeve Protectors.)  
National India Rubber Co., Bristol, R. I. (Rubber Shirt.)  
Post and Lester Co. (The), Hartford, Conn. (Leggings.)  
Raymond, A. & Co., 129-133 Fulton St., N. Y. City. ("Raymond.")  
Rosenthal & Katz, 52 W. 18th St., New York City.  
Scandinavian Fur and Leather Co., 14-16 W. 33d St., N. Y. City.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.  
Stern Bros., West 23d St., N. Y. City.

## COLLAPSIBLE BUCKET

Duplex Folding Pail Co., 114 E. 14th St., N. Y. City.  
Durkee, C. D., & Co., 2 South St., N. Y. City.  
Goodrich, B. F., Co., Akron, Ohio.

## CYLINDER OIL

Allerton Oil and Grease Co., 78 Broad St., N. Y. City, N. Y.  
Columbia Lubricants Co., 78 Broad St., N. Y. City, N. Y.  
Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Fiske Bros. Refining Co., 59 Water St., N. Y. City.  
Harris, A. W., Oil Co., 326 S. Water St., Providence, R. I.  
Havemeyer Oil Co. (The), 80 Broad St., N. Y. City, N. Y. ("Havoline.")  
Hawes, Geo. A., 73 Pine St., New York City.  
Kellogg, E. H., & Co., 243 South St., N. Y. City, N. Y. (Anti-Corrosive.)  
Kellom, Chas. F., 128 Arch St., Philadelphia, Pa.  
Millers', Wm. P., Sons, 100 Greenpoint Ave., Brooklyn, N. Y.  
Musliner, Joseph I., & Co., 204-206 Maiden Lane, N. Y. City, N. Y.  
Pennsylvania Petroleum Co., 117 N. 2d St., Philadelphia, Pa.  
Spear's, The Alden Sons Co., 369 Atlantic Ave., Boston, Mass.  
Valvoline Oil Co., 27 State St., Boston, Mass. ("Valvoline.")  
Young, O. W., 180 Freylinghuysen Ave. Newark, N. J.

## EMERGENCY CASES

Mamedion Chemical Co., 314 E. 79th St., N. Y. City.  
U. S. Emergency Case Co., 11 Weaver Bldg., Utica, N. Y.

## ENGINE STARTERS

Auto Improvement Co., The, 304 Hudson St., New York City. "Ever Ready."  
Lock Switch Mfg. Co., 20 Broad St., N. Y. City.

## FILTERS

ones, Wm. S., 112 N. Broad St., Philadelphia, Pa.

## FIRE EXTINGUISHERS

Badger, E. B., & Sons Co., 63 Pitts St., Boston, Mass.  
Boyd & Son I., 10 N. 4th St., Philadelphia, Pa.  
John-Manville Co., H. W., 100 William St., N. Y. City.

## COMING EVENTS

Oct. 20—Fourth Annual Cross-Country Run, Automobile Club of Phila.

Oct. 21—Kilometer Trials for Motor Cars.

Oct. 23—Gaillon Hill Climb, France.

Oct. 30—Start from Paris, Gordon Bennett Aeronautical Cup Race.

Nov. 1—Opening date New Zealand International Exhibition, Christ Church.

Nov. 1-16—Berlin (Germany) Automobile Exhibition.

Nov. 6—Newark, N. J., Weequahic Park. New Jersey Automobile and Motor Club Race meet.

Nov. 7-10—Automobile Club of America, Business Vehicle Test. New York City.

Nov. 12-17—1,000 Mile Reliability Tour, Australia.

Nov. 15-24—London, Olympia Motor Show.

Nov. 23—Dec. 1—London Stanley Show, Agricultural Hall.

Nov. 24—Dec. 4—German Automobile Show, Berlin.

Nov. 29—Thanksgiving Day Hill Climb, Riverside, California.

Dec. 1-8—The Automobile Club of America and the American Motor Car Manufacturers' Association Automobile Show, Grand Central Palace, New York.

Dec. 7-24—Paris Automobile Salon.

Dec. 15—Calcutta, India, Exhibition of Automobiles, Automobile Association of Bengal.

Jan. 5-12—Automobile Show, Dublin, Ireland, Irish A. C.

Jan. 12-19—7th National Auto Show, Madison Square Garden under auspices of the Association of Licensed Automobile Manufacturers.

Jan. 22-26—Fifth Annual Ormond-Daytona Races, Ormond Beach, Florida.

Feb. 2-9—Chicago Automobile Show, Coliseum and First Regiment Armory

Feb. 11-16—Annual Show of the Tri-State Automobile and Sportsman's Show Association, Detroit.

Feb. 18-23—Fifth Annual Automobile Show, Convention Hall, Buffalo, N. Y.

March 9-16—Boston Automobile Show, Mechanics' Hall and Horticultural Hall, Boston Automobile Dealers' Association.

April 6-13—Second Annual Automobile Show and Sportsman's Exhibition, Montreal, Can.

## Kilgore Pneumatic Shock Eliminator

The Kilgore Pneumatic Shock Eliminator Co., of Boston, have opened a branch salesroom and equipped a shop, at 1773 Broadway, New York city. An experienced force of salesmen and mechanics are in charge to attend promptly to all customers. Mr. Albert Lodge, from the home office, is manager.

Little Giant Mfg. Co., The, 88 Wall St., N. Y. City. ("Little Giant.")  
Rex Fire Extinguisher Co., The, 132 Centre St., N. Y. City. ("Rex.")  
U. S. Fire Extinguisher Mfg. Co., 134 W. 23d St., N. Y. City.

## GOGGLES AND MASKS

Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
Funke, A. H., 83 Chambers St., N. Y. City.  
Globe Optical Co., 403 Washington St., Boston, Mass.  
Meyrowitz, E. B., 104 E. 23d St., N. Y. City.  
Mills Mfg. Co., The, 10 E. 23d St., N. Y. City.  
Rubay, Leon, 140 W. 38th St., N. Y. City.  
Scandinavian Fur & Leather Co., 14-16 W. 33d St., N. Y. City.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y.

## GRAPHITE

Jos. Dixon Crucible Co., Jersey City, N. J. "Dixon"  
"L. A. W." "No. 635," "Auto and Bl," "Graphite."

## GREASES

Allerton Oil & Grease Co., 78 Broad St., N. Y. City.  
Columbia Lubricants Co. of N. Y., 78 Broad St., N. Y. City. "Monogram and Initial."  
Fiske Bros. Refining Co., 59 Water St., N. Y. City. "Lubroline."  
Harris, A. W., Oil Co., 326 S. Water St., Providence, R. I. Auto.  
Kellogg, E. H., & Co., 243-244 South St., N. Y. City. "Anti-friction," "Excelsior."  
Rubay, Leon, 140 W. 38th St., N. Y. City.  
Spear's, The Alden Sons Co., 369 Atlantic Ave., Boston, Mass.  
Vacuum Oil Co., 29 Broadway, N. Y. City.

## HORNS (AUTOMOBILE)

Automobile Supply Mfg. Co., 320 Driggs Ave., Brooklyn, N. Y.  
Exhaust Horn, New Jersey Tube Co., Newark, N. J.  
Funke, A. H., 83 Chambers St., New York City.  
Gabriel Horn Mfg. Co., 970-73 Hamilton St., Cleveland, Ohio.  
Gleason-Peters Air Pump Co., 20 W. Houston St., New York City.  
Goodrich, B. F., Akron, Ohio.  
Hutchinson Electric Horn Co., Suite 9033, No. 1 Madison Ave., N. Y. City.  
Manhattan Screw and Stamping Works, 7th Ave. and 11th St., New York.  
Motor Car Equipment Co., The, 55 Warren St., New York City.  
New York Coach and Auto Lamp Co., 798 10th Ave., New York City.  
Riley & Klotz, 17-19 Mulberry St., Newark, N. J.  
Rubay, Leon, 140 W. 38th St., N. Y. City.  
Snutsel Auto Supply Co., 1534 B'way, N. Y. City.  
Twentieth Century Mfg. Co., 19 Warren St., N. Y. City. "Twentieth Century."  
Willis, E. J. Co., 10 Park Place, New York City.

## HOUSES (AUTOMOBILE)

C. & A. Patented Building Construction Co., 170 Broadway, N. Y. City.  
Premier Mfg. Works, St. John, Mich.  
Smith, H. W., Room 1512, No 66 Broadway, N. Y. City.  
Springfield Moulding Works, 58 Waltham Ave., Springfield, Mass.

## IGNITION BATTERIES

American Electrical Novelty & Mfg. Co., Spring, Hudson and Vandam Sts., N. Y. City. (Ever Ready.)  
Dayton Electrical Mfg. Co., The, 609-13 Reibold Bldg., Dayton, Ohio. (Apple-Duplex.)  
Dayton Mfg. Co., Dayton, Ohio.  
Dow Portable Electric Co., Braintree, Mass.  
Eastern Carbon Works, West Side Ave. and Central R. R., Jersey City, N. J.  
Edison Storage Battery Co., Glen Ridge, N. J.  
Electric Contract Co., 209-4 Centre St., N. Y. City.  
Empire State Dry Battery Co., 70 Fulton St., N. Y. City.  
Gould Storage Battery Co., 1 West 34th St., N. Y. City. "Gould."  
Hutchinson Electric Horn Co., Suite 9033, No. 1 Madison Ave., New York, N. Y.  
National Battery Co., 368-382 Massachusetts Ave., Buffalo, N. Y. "Sperry."  
National Carbon Co., W. Madison and Highland Ave., Cleveland Ohio. "Columbia."  
New England Motor Co., 82 Fletcher St., Lowell, Mass.  
Nungesser Electric Battery Co., 27-33 King St., Cleveland, Ohio.  
Pittsfield Spark Coil Co., Pittsfield, Mass.  
Roche, Wm., Dry Battery Co., 52-54 Park Pl., New York City.  
Royal Battery Co., 143 Chambers St., N. Y. City. (National Sales Corporation, 256 Broadway, N. Y. Factory Sales Mgr.) "Geecoe."  
Rubay, Leon, 140 W. 38th St., N. Y. City.  
Snutsel Auto-Supply Co., 1534 B'way, N. Y. City.  
The Electric Storage Battery Co., Philadelphia, Pa.  
United Electrical Mfg. Co., 53 Vesey St., N. Y. City. "Crescent."  
Willard Storage Battery Co., 29 Academy St., Cleveland, Ohio.  
Witherbee Ignitor Co., 541 N. 43d St., N. Y. City.

## IMPORTERS (AUTO GOODS)

Angiulli, Luigi, 180-182 Centre St., New York City. (Angelus Lamps.)  
Champion, Albert Co., 521 Tremont St., Boston, Mass. (Spark plugs, spark coils, storage batteries, limousine electric lights, ignition wire, magnetos, oilers, ammeters, voltmeters and siren whistles.)



## THEY SUPPLY YOUR WANTS

Coops, C. W. Co., 3 Appleton St., Boston, Mass.  
 Dac Automobile Supply House, 1739 Broadway, New York City.  
 Excelsior Supply Co., 233-237 Randolph St., Chicago, Ill.  
 Heller, Joseph S., 123 W. 32d St., New York City. ("Pipe" cars; "Simms" safety buffer.)  
 Herz & Co., 189 Elm St., New York City. (French coils and storage batteries.)  
 Holcombe & Co., 45 Vesey St., New York City. (Spark plugs.)  
 Manufacturers' Agency Co., 1679 Broadway, New York City. (Automobile parts.)  
 Miller, Chas. E., 97-101 Reade St., N. Y. City. (Auto parts and supplies.) (Auto jewelry and horns.)  
 Motor Car Equipment Co., 55 Warren St., N. Y. City. (Accessories and supplies.)  
 Napier Motor Co. of America, 743 Boylston St., Boston, Mass. (Napier motor cars, launches, motors and transmissions.)  
 National Automobile Co., 205-9 E. 86th St., New York City. (Mercedes parts.)  
 N. Y. Sporting Goods Co., 17 Warren St., N. Y. City.  
 Post & Lester Co., The, 30 Sargeant St., Hartford, Conn. (Horns, lamps, ammeters, spark plugs, voltmeters, spark coils, and goggles.)  
 Rubay, Leon, 140 W. 38th St., New York City. (Continental and Michelin tires, auto horns, La Coste ignition apparatus.)  
 Smith & Mabley, Inc., Broadway, between 56th and 57th St., New York City. (Billy lamps, "Panhard," "Renault," and "Mercedes" Cars, "Hercules" anti-skid tires.)  
 Snutsel Auto-Supply Co., 1534 B'way, N. Y. City  
 Stallforth, G. & Co., 396-398 Broadway, New York City. (Spark plugs; mica cores.)  
 Sussfeld, Lorsch & Co., 37 Maiden Lane, New York City. (Miscellaneous French auto supplies.)

### INSURANCE (AUTO)

Aetna, Hartford, Conn.  
 Tobin, Joshua F., 500 Fifth Ave., New York City  
 Travelers', Hartford, Conn.

### JACKS

Auto Bed Co., The, 36 Columbus Ave., Boston, Mass. "Autobed."  
 Buckeye Jack Mfg. Co., The, Louisville, Ohio.  
 Duff Mfg. Co., Westinghouse Bldg., Pittsburg, Pa. "Barrett."  
 Hardy, The R. E. Co., 225 W. Broadway, N. Y. City.  
 Jersey Brake Co., 56 Columbia St., Newark, N. J. "Searls."  
 Pope Mfg. Co., Hartford, Conn. "Kenosha."  
 Roth Jack and Tool Co., 68 William St., Room 508 New York City.  
 Rubay, Leon, 140 W. 38th St., New York City.  
 Wray Pump and Register Co., 191 Mill St., Rochester, N. Y.

### JUVENILE FOOT AND HAND PROPELLED VEHICLES

Toledo Metal Wheel Co., Toledo, Ohio.  
**LAMPS (AUTOMOBILE)**  
 American Lamp Co., 83-85 Randolph St., Detroit, Mich.  
 American Lamp Works, 66 W. 43d St., N. Y. City.  
 Angiulli, Luigi, 180-182 Centre St., New York City.  
 Atwood Mfg. Co., Amesbury, Mass.  
 Badger Brass Mfg. Co., The, Kenosha Wis. "Solar."  
 Boesch Lamp Co., 1569 Grove St., San Francisco, Cal.  
 Dayton Electrical Mfg. Co., The, 600-612 Reibold Bldg., Dayton, Ohio. (Combined lighting and igniting outfits.)  
 Dietz, R. E. Co., New York.  
 Edmunds & Jones Mfg. Co., 313-315 Riopelle St., Detroit, Mich.  
 Elbridge Electrical Mfg. Co., Elbridge, N. Y.  
 Funke, A. H., 83 Chambers Street, N. Y.  
 General Electric Co., Schenectady, N. Y.  
 Gray & Davis, Amesbury, Mass.  
 Gray, Peter & Sons, 88-90 Union St., Boston, Mass.  
 Ham, C. T. Mfg. Co., Rochester N. Y. "Ham," "Cold Blast."  
 Hine-Watt Mfg. Co., 69 Wabash Ave., Chicago, Ill.  
 Manhattan Screw and Stamping Works, 7th Ave. and 11th St., New York City.  
 Motor Car Equipment Co., The, 55 Warren St., New York City.  
 New York Coach and Auto Lamp Co., 798 10th Ave., New York City.  
 Post & Lester Co., The, 30 Sargeant St., Hartford, Conn.  
 Rose Mfg. Co., 910 Arch St., Philadelphia, Pa. "Neverout."  
 Rubay, Leon, 140 W. 38th St., New York City.  
 Scoville & Peck Co., 15 Wooster St., New Haven, Conn. "Peck."  
 Snutsel Auto-Supply Co., 1534 B'way, N. Y. City.  
 Twentieth Century Mfg. Co., 19 Warren St., New York City. "Twentieth Century."

### LICENSE TAGS

Automobile Equipment Co., 251 Jefferson Ave., Detroit, Mich.  
 Boyle, John & Co., 112-114 Duane St., New York City. (And lamp numbers.)  
 Dentzeau, Geo., 161 Grand St., New York City.  
 Lighthouse, Chas. F. & Co., 176 Broadway, New York City.  
 McKinnon Dash Co., Amherst St., Buffalo, N. Y.  
 Mesinger, H. & F. Mfg. Co., 1801 First Ave., New York City.  
 Post & Lester Co., The, Hartford, Conn.

### LOCK SWITCHES

Lock Switch Co., 30 Broad St., New York City.

## For Sale and Wanted

### FOR SALE

We can save you money if you buy your machine now. We have one new Model S Oldsmobile just received from the factory, and a number of elegant bargains. Send for bargain sheet A. Maine Motor Carriage Co., cor. Free and South Streets, Portland, Me.

### FOR SALE

F-I-A-T AUTOMOBILE, 1903  
 MODEL, GOOD CONDITION.

ADDRESS P. O. BOX 244,  
 LARCHMONT, N. Y.

## Intending Purchasers

of Automobiles by consulting with our mechanical experts before buying will save trouble and expense.

## Automobile Listing and Inspection Co.,

62 William Street, New York

J. S. HELLER, Manager



Atlas No. 2.  
 Patent Applied For.

## JUST OUT

### THE ATLAS NO. 2

Will raise any automobile with wheels 26 inches or over.  
 Height, 11 3/4 inches.  
 Weight, 6 pounds.  
 Can be worked at any angle or in cramped places.  
 Fits truss brace, round or square axle.

Price, \$3.00



U. S. Jack No. 1.  
 Pat. July 10, 1906.  
 Price, \$2.50.

## The U. S. Jack Co.

1023 Lake Street,  
 CHICAGO, ILL.

HAVE TAKEN IN EXCHANGE  
 two 1905 thirty-horse-power touring cars for this year's model. Will offer at a very liberal price. Guaranteed in perfect condition. Call and see same at

## CARLSON AUTO CO.,

1060 BEDFORD AVE., BROOKLYN, N. Y.

Get E. W. Roberts' AUTOMOBILE POCKETBOOK if you want to get the whole question of practical automobilizing boiled down to the smallest and most perfect shape. Price \$1.50 Book Department, THE AUTOMOBILE MAGAZINE, 136 Liberty Street, New York.

### MONOGRAMS (BRASS)

The Chandler Co., 31 Taylor St., Springfield, Mass.

### NAME PLATES

The Chandler Co., 31 Taylor St., Springfield, Mass.  
 Walter, N. C. & Sons, 194 William St., N. Y. City.

### ODOMETERS

Bullard, J. H., Springfield, Mass. (Speedometer odometer and clock combined.)  
 Jones, Jos. W., 127 W. 32d St., N. Y. City. ("Jones.")  
 Loring, E. J., Somerville, Mass. (Combined speedometers and odometers.)  
 Motor Car Specialty Co., 143 E. State St., Trenton, N. J. (Combination speed meter, odometer and clock.)  
 Rollins Mfg. Co., Park Sq. Motor Mart, Boston, Mass. (Combined speedometers and odometers.)  
 Smith, R. H. Mfg. Co., Springfield, Mass. (Combined speedometer and odometer.)  
 Veeder Mfg. Co., Sargeant and Garden Sts., Hartford, Conn. ("Veeder.")  
 Warner Instrument Co. (Auto-Meter), Beloit, Wis.  
 Wood Speedometer Co., 106 Sudbury St., Boston, Mass.

### OILS

(See also Cylinder Oil.)

Allerton Oil and Grease Co., 78 Broad St., New York City.  
 Borne-Scrymser Co., 135 Front St., New York City.  
 Columbia Lubricants Co., 78 Broad St., N. Y. City.  
 Cook's, Adam, Sons, 313 West St., New York City.  
 Harris, A. W., Oil Co., 326 S. Water St., Providence, R. I.  
 Hawes, Geo. A., 73 Pine St., New York City.  
 Kellogg, E. H. & Co., 243-244 South St., N. Y. City.  
 Rubay, Leon, 140 W. 38th St., New York City.  
 Speare's, The Alden, Sons Co., 369 Atlantic Ave., Boston, Mass.  
 Vacuum Oil Co., 29 Broadway, New York City.  
 White & Bagley Co., Worcester, Mass. "Oilsum."  
 Young, O. W., 180 Freylinghuysen Ave., Newark, N. J.

### POLISHES (METAL)

Armstrong & Co., Kalamazoo, Mich. ("Monarch.")  
 Cole, G. W., Co., 143 Broadway, New York City.  
 ("R. K." and "3 in 1.")  
 Columbia Lubricants Co., of N. Y., 78 Broad St., New York City.  
 Edmonds, J. Wesley & Son, 216 Franklin St., New York City. (Electric.)  
 National Cement and Rubber Mfg. Co., 3053-59 Monroe St., Toledo, Ohio.  
 Newbern, The, S. C. Co., 505 Quarry St., Phila., Pa.  
 New Jersey Paint Works, Jersey City, N. J.  
 Raines & Co., 50 Ferry St., New York City.

### PUMPS (AUTOMOBILE TIRE)

Bridgeport Brass Co., 253 Broadway, N. Y. City.  
 Cleveland Faucet Co., Cleveland, Ohio.  
 Gleason-Peters Air Pump Co., 20 W. Houston St., New York City.  
 Jones, Wm. S., 112 N. Broad St., Philadelphia, Pa.  
 Manhattan Screw and Stamping Works, 7th Ave. and 11th St., New York City.  
 Post & Lester Co., 30 Sargeant St., Hartford Conn.  
 R. & C. Indicator Co., Bridgeport, Conn.  
 Rubay, Leon, 140 W. 38th St., New York City.  
 Skinner & Skinner, 4133 Indiana Ave., Chicago, Ill.  
 Spacke, F. W. Machine Co., Indianapolis, Ind.  
 Tiley Pratt Co., Essex, Conn.  
 Ultra Pump and Power Co., Auburn, N. Y.  
 Wray Pump & Register Co., 191 Mill St., Rochester, N. Y.

### RAIN APRONS

Boyle, John W. & Co., 112-114 Duane St., N. Y. City.  
 Gilbert Mfg. Co., New Haven, Conn.  
 Indianapolis Dash Co., Indianapolis, Ind.  
 Nathan Novelty Mfg. Co., 88-90 Reade St., New York City. (Rain and dust aprons.)  
 Perfection, The Storm Shield Co., S. Main St., Clyde, Ohio.  
 Springfield Auto. Top and Upholstering Co., 102-106 Dwight St., Springfield, Mass.

### SCHOOLS

Manhattan Automobile School, 315-21 W. 96th St., New York City.  
 New York School of Automobile Engineers, 146 W. 56th St., New York City.

### SECOND-HAND AUTOMOBILES

Graham Cycle Co., 601-605 Madison St., Chicago, Ill.  
 Broadway Auto. Exchange, Inc., 513-15 7th Ave., New York City.  
 Inter-State Auto. Touring Co., 5 E. 42d St., New York City.  
 Manhattan Storage Co., 42-44 Cortlandt St., New York City.  
 Manufacturers' Motor Car Co., 54-56 W. 43d St., New York City.  
 Times Square Auto Co., 164 W. 46th St., N. Y. City.

### SHOCK ABSORBERS AND AUXILIARY SPRINGS

Baldwin Chain and Mfg. Co., Dept. B, 31 Herman St., Worcester, Mass. "House."  
 Diezemann Shock Absorber Co., 1311 Hudson St., Hoboken, N. J.  
 Gabriel Horn Mfg. Co., 970-972 Hamilton St., Cleveland, Ohio. "Poster."  
 Godshalk, E. H. & Co., 23d and Hamilton Sts., Philadelphia, Pa.  
 Graham Co., The, 84 Waumbeck St., Boston, Mass.  
 Hartford Suspension Co., 67 Vestry St., N. Y. City.  
 Indianapolis Bolster Spring Co., Indianapolis, Ind. "Victor."  
 Kelsey Suspension Co., Tarrytown, N. Y.  
 Kilgore Auto. Air Cushion Co., 46 Columbus Ave., Boston, Mass. "Kilgore."



## THEY SUPPLY YOUR WANTS—Continued

Sheddan Mfg. Co., The, 138 W. Fayette St., Baltimore, Md.

Supplementary Spiral Spring Co., The, 4524-4562 Delmar Ave., St. Louis, Mo.

## SPARK COILS

Connecticut Telephone & Electric Co., Meriden, Conn.

Goodson Electric Ignition Co., 94 Point St., Providence, R. I. (Also primary "Goodson.")

Hardy, R. E. Co., 225 W. Broadway, New York City.

Heinze Electric Co., Lowell, Mass.

McKibbin Mfg. Co., S. Norwalk, Conn.

Mosler, A. R. & Co., 1679 Broadway, New York City.

National Carbon Co., W. Madison and Highland Ave., Cleveland, Ohio, "National."

National Coil Co., 115-117 Michigan Ave., Lansing, Mich.

Never-Miss Spark Plug Co., Lansing, Mich.

New York Coil Co., 338 Pearl St., New York City.

Noxon, C. P., 500 E. Water St., Syracuse, N. Y.

Ohio Electric Works, 76-78 Ellen St., Cleveland, O.

Pittsfield Spark Coil Co., Pittsfield, Mass.

Roche, Wm., Dry Battery Co., 52-54 Park Place, New York City.

Rogers, Geo. D., Automobile Parts Mfg. Co., 56 Kinsman St., Cleveland, Ohio.

Rubay, Leon, 140 W. 38th St., N. Y. City. (Lacoste.)

Schug Electric Mfg. Co., Champlain and Beaubien Sts., Detroit, Mich.

Seidler-Miner Electric Co., 207-211 Jefferson Ave., Detroit, Mich.

Snutsel Auto-Supply Co., 1534 B'way, New York City.

Splitdorf, C. F., 23 Vandewater St., N. Y. City.

Williams, E. Q., 535 S. Clinton St., Syracuse, N. Y.

## SPARK PLUGS

Gilbough, B. G., Room 312, 36 La Salle St., Chicago, Ill.

Hardy, R. E. Co., 225 W. Broadway, N. Y. City.

Hatcher Auto-Parts Co., The, 138 Viaduct, Cleveland, Ohio.

Herz & Co., 189 Elm St., N. Y. City. Bougie "Herz."

Induction Coil Co., The, 9-10-11 Miller Bldg., Milwaukee, Wis.

Kokomo Electric Co., The, Kokomo, Ind.

Lipman, Carl E. L., Beloit, Wis. "Billy Hell."

Little & Eastman Co., 595 Harrison Ave., Boston, Mass.

Mayo Damper Co., 355 Walnut St., Pottstown, Pa.

Mezgar, C. A., 203 W. 80th St., New York City.

(National Sales Corporation, 256 Broadway, New York City, Factory Sales Mgr.)

Miller, Chas. E., 97-101 Reade St., New York City.

Mosler, A. R. & Co., 1679 Broadway, New York City.

"Spit Fire."

Never-Miss Spark Plug Co., Lansing, Mich. "Never Miss."

Oakes & Dow Co., The, 40 Sudbury St., Boston, Mass. "Comet" and Sootless.

Pittsfield Spark Coil Co., Pittsfield, Mass.

Pittsfield Spark Coil Co., Pittsfield, Mass. "Jewel."

Pope Mfg. Co., Hartford, Conn.

Post & Lester Co., The, 20 Sargeant St., Hartford, Conn.

Rajah Auto-Supply Co., 140 Washington St., New York City.

Richards, F. H., 15 Murray St., New York City.

Richardson Engineering Co., 36 Pearl St., Hartford, Conn.

Roche, Wm., Dry Battery Co., 52-54 Park Place, New York City.

Rubay, Leon, 140 W. 38th St., New York City.

Seidler-Miner Electric Co., 207-211 Jefferson Ave., Detroit, Mich. "S. M."

Snutsel Auto-Supply Co., 1534 B'way, N. Y. City.

Splitdorf, C. F., 23 Vandewater St., New York City.

## SPEED INDICATORS

Bullard, J. H., Springfield, Mass. (Speedometer, Odometer, Clock combined.)

Chromo-Velocimeter Co., The, 1213 Filbert St., Philadelphia, Pa.

Jones, Jos. W., 127 W. 32d St., New York City.

"Jones," (Auto, Boat and Cycle.)

Jones, Wm. S., 112 N. Broad St., Philadelphia, Pa.

(Lea Speedistimeter and Lea Speedometer)

E. T. Kimball Co., (Abell Speedometer), 1779 B'way, New York City.

Monitor Speed Recorder Co., 247 Pearl St., Cambridge, Mass.

Motor Car Specialty Co., 143 E. State St., Trenton, N. J. (Combination speed meter, odometer and clock.)

Rollins Mfg. Co., Park Square Motor Mart, Boston, Mass. (Combined speedometers and odometers.)

Rubay, Leon, 140 W. 38th St., New York City.

Smith, R. H. Mfg. Co., Springfield, Mass. (Also speedometer and odometer, combined.)

Veeder Mfg. Co., Sargeant and Garden Sts., Hartford, Conn. "Veeder Tachometer."

Warner Instrument Co. (Auto-Meter), Beloit, Wis.

## TIRES (AUTOMOBILE)

Ajax Standard Rubber Co., 430-430 E. 106th St., New York City.

American Wood Tire Co., 911 Monadnock Building, Chicago, Ill. (Wood.)

Bailey, C. J., & Co., 25 Boylston St., Boston, Mass. (Licensors.) "Bailey Wont Slip."

Broadway Rubber Tire Co., 253 W. 47th St., New York City.

Consolidated Rubber Tire Co., 40 Wall St., New York City. "Kelly-Springfield."

Continental Caoutchouc Co., 43 Warren St., New York City. "Continental."

Continental Rubber Works, Erie, Pa.

Diamond Rubber Co., Akron, Ohio. "Diamond."

Electric Rubber Mfg. Co., Rutherford, N. J.

Firestone Tire and Rubber Co., Akron, Ohio. "Firestone."

Fisk Rubber Co., Chicopee Falls, Mass. "Fisk"

"Mechanically Fastened."

G. & J. Tire Co., Indianapolis, Ind. "G. & J."

Gaulois Tire Co., 1739 Broadway, New York City.

"Gaulois" (Imported.)

Goodrich, B. F., Co., Akron, Ohio. "G. & J."

Goodyear Tire and Rubber Co., Akron, Ohio.

"Ajax and Goodyear."

Harburg Tire Co., 232 W. 58th St., New York City.

Healy Leather Tire Co., 88 Gold St., New York City.

H. M. & S. Armored Tire Co., Pittsburg, Pa.

Hartford Rubber Works Co., Hartford, Conn.

"Hartford," "Dunlop," "Turner."

Ideal Auto Tire Co., 1130 Fourteenth Ave., Detroit, Mich. "Ideal."

India Rubber Co., 16 Warren St., New York City.

"India."

International Auto and Vehicle Tire Co., Milltown, N. Y. "International Fox Brand," "International Endurance," "International G. & J."

Kokomo Rubber Co., Kokomo, Ind.

Krotz Mfg. Co., Springfield, Ohio. (Cushion.)

May & Wells, 11 Abbott St., Detroit, Mich.

Mesinger, H. & F., Mfg. Co., 1801 First Ave., New York City. (Leather.)

Michelin Products Selling Co., 31 and 33 W. 31st St., New York City. "Michelin" (Imported.)

Mitchell Punctureless Pneumatic Tire Co., 324 Essex St., Swampscott, Mass.

Morgan & Wright, 331-339 W. Lake St., Chicago, Ill.

Mots Clincher Tire and Rubber Co., Akron, Ohio.

Palmer, H. A., 54 Fay St., Akron, Ohio. (Mechanically fastened.)

Pennsylvania Rubber Co., Jeannette, Pa.

Republic Rubber Co., Youngstown, Ohio.

Rubay, Leon, 140 W. 38th St., New York City.

Rubber Tire Co., 1215 Arch St., Philadelphia.

"Lattina" (Cellular.)

St. John Rubber Tire Co., 116 Broad St., New York City. (Cushioned.)

Salisbury Tire Association, Owosso, Mich.

Samson Tire Co., 12 W. 33d St., New York City.

Single Tube Auto and Bic. Tire Co., 253 Broadway, New York City. (Licensors under Tillinghast Patents.)

Swinehart Clincher Tire and Rubber Co., Akron, O.

Tennant Auto Tire Co., 131 W. Main St., Springfield, Ohio.

The Universal Tire Co., 623 St. James Bldg., New York City. (Cushion.)

Traction Tread Tire Co., 1655 B'way, N. Y. City.

Voorhees Rubber Co., 303 W. 54th St., N. Y. City.

Western Rawhide Belting Co., 7th and National Ave., Milwaukee, Wis. Leather.

## TIRE ADJUSTERS

Long & Mann Co., 520 Central Bldg., Rochester, N. Y.

## TIRE BRACKETS

Gilbert Mfg. Co., New Haven, Conn.

## TIRE PROTECTORS

Empire Rubber Mfg. Co., The, P. O. Box 34, Trenton, N. J.

Gilbert Mfg. Co., New Haven, Conn. (Tire bands and sleeves.)

Leather Tire Goods Co., The, Newton Upper Falls, Mass. "Woodworth."

M. & M. Mfg. Co., Akron, Ohio.

Manning Mfg. Co., Whitney Bldg., Springfield, Mass.

Pneumatic Tire Protector Co., The, Dayton, Ohio.

## TIRE PRESSURE INDICATORS

Lock Switch Mfg. Co., 20 Broad St., New York City.

## TIRE REPAIR KITS (AUTOMOBILE)

Continental Caoutchouc Co., 43 Warren St., New York City.

Diamond Rubber Co., Akron, Ohio.

Goodrich, B. F., Co., Akron, Ohio.

Goodyear Tire & Rubber Co., Akron, Ohio.

Hartford Rubber Works Co., Hartford, Conn.

International Automobile and Vehicle Tire Co., Milltown, N. J.

National Cement and Rubber Mfg. Co., 3053-3059 Monroe St., Toledo, Ohio.

Tingley, Chas. O., & Co., Rahway, N. J.

## TOPS (AUTOMOBILE)

Automobile Cover and Top Mfg. Co., 148 W. 56th St., N. Y. City.

Auto Top and Specialty Co., Broadway and 63d St., New York City.

Brock Carriage and Wagon Co., The, 417-21 Cass Ave., Cleveland, Ohio.

Detroit Carriage Co., Detroit, Mich.

Duane, W. J., & Co., 1771 Broadway, New York City. (Canopy.)

Morton, Robert E., 26 South St., N. Y. City.

Quinby, J. N., & Co., 1534 Broadway, N. Y. City.

Rands Mfg. Co., 51-55 Macomb St., Detroit, Mich.

Russell, H. J., Worcester, Mass.

Sprague Umbrella Co., Norwalk, Conn. ("Sprague")

Springfield Auto Top and Upholstering Co., 102-6 Dwight St., Springfield, Mass.

Springfield Metal Body Co., Brightwood, Springfield, Mass.

Lovers of the Automobile will kindly fill the subscription blank appended below and return to us and they will be furnished monthly with

**The Oldest, the Most Reliable, the Most Popular, the Most Instructive**  
and the most **Entertaining** magazine published in the interest of Automobile  
owners, manufacturers and users.

## Subscription Blank

Publisher THE AUTOMOBILE MAGAZINE

136 LIBERTY STREET, NEW YORK

Date, \_\_\_\_\_

Please enter my name as a subscriber to THE AUTOMOBILE MAGAZINE for  
One Year, beginning with the issue of \_\_\_\_\_, for  
which I enclose One Dollar.

Name \_\_\_\_\_

Address \_\_\_\_\_

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.

## One Hand Control and Safety

With the **DURYEY** single lever control the car can be slowed down, accelerated or turned **INSTANTANEOUSLY**. With any other arrangement even half a second's time reaching for a lever may mean an accident. **DURYEY** steering connections are all double; there is no chance of accident from a broken steering connection. The **DURYEY** steering pivot gives the same result as an ordinary caster, so that road shocks have absolutely no effect on the steering lever. A front wheel can be driven over a brick at 5 or at 50 miles an hour and the course of the car will not be deflected in the slightest, even with the hand off the steering lever, thus absolutely proving perfect steering.

The fastest car in the world (over 2 miles a minute at Ormond) was steered by a lever, NOT by a wheel.

**Duryea Power Co.,** 30 C Street,  
Reading, Pa.

# FREE

**THIS** book is one of the most valuable recent works on advertising. It is distinctly the hit of the year. It is pocket size, contains 300 pages, and is handsomely bound in leather. It is full of facts about publications, their circulation, rates, etc.; population, street car, and bill posting facilities of the important cities and towns in the United States and Canada; specimens of type faces and composition tables; statistics relating to advertising, etc.

*Its price is \$2.00 per copy. You get it FREE from us*

## American Industries

(Official Organ of the National Association of Manufacturers)

is the one paper which every manufacturer ought to have. It is **YOUR** paper, in fact, if you are a manufacturer. It has the best articles published on Exports, Advertising, the Labor Question, "System" in the office and in the shop.

*Two great series of articles will begin in the December 1 issue:*

### How to Get an Export Trade

### How to Get Results from Advertising

Every one of these articles is by an expert. They will run throughout the coming year.

*This is our offer to you: Send One Dollar for a year's subscription to American Industries and we will send you the Two Dollar Mahin Advertising Data Book (1906 edition) free with your subscription.*

*This offer is good now. On January 1 the subscription price of American Industries is to be increased to Two Dollars a year, and no order received after that date can be filled for less than Two Dollars.*

*Detach this coupon, pin One Dollar to it and send it in to-day*

THE MAHIN  
ADVERTISING  
DATA BOOK



1906

#### Coupon

.....190  
American Industries  
816 Maiden Lane Bldg.  
New York City

Please find enclosed \$1.00 for which send me American Industries for one year from date, and also send me free the Mahin Advertising Data Book (latest edition). Name.....

Address.....

In answering advertisements please mention THE AUTOMOBILE MAGAZINE.







## A black and white portrait of a man with a mustache, wearing a dark suit and a hat, framed by an ornate, carved wooden frame. The man is looking slightly to the left. The frame is highly decorative with intricate carvings.

**NORWALK, OHIO, U. S. A.**

VOL. IX. No. 5

NOVEMBER, 1906

# THE AUTOMOBILE MAGAZINE

Published by THE AUTOMOBILE PRESS  
ANGUS SINCLAIR, Editor  
136 Liberty Street, New York

MONTHLY  
Price, 20 Cents



*Why is the Royal Tourist famous? Ask an owner*

## ROYAL THE ROYAL MOTOR CAR CO.

CLEVELAND, OHIO

### AGENTS

C. A. Duerr & Co., New York.

G. J. Dunham, Boston.

The McDuffee Automobile Co., Chicago.

Automobile & Supply Co., Lim., Toronto.

G. W. Caplin, Minneapolis.

Motor Shop, Philadelphia.

Reyburn Motor Car Co., St. Louis.

Standard Automobile Co., Pittsburg.

Amos-Pierce Auto Co., Syracuse.

Schoeffel Co., Rochester.

Royal Motor Car Agency, San Francisco.